Rider's Manual (US Model)

R 1200 ST

BMW Motorrad

Motorcycle/Retailer Data

Motorcycle data

Model

Vehicle identification number

Color number

First registration

Registration number

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number
(company stamp)

Welcome to BMW

We congratulate you on your choice of a motorcycle from BMW and welcome you to the community of BMW riders. Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all traffic situations. Please read this Rider's Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features. In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value.

If you have any questions concerning your motorcycle, your authorized BMW motorcycle retailer will gladly provide advice and assistance.

We hope you enjoy reading this Rider's Manual and wish you many a pleasant, safe journey on your BMW motorcycle.

Best wishes,

BMW Motorrad

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General information

About this Rider's Manual

We have tried to make all the information in this Rider's Manual easy to find. The quickest access to a particular topic or item is by consulting the detailed alphabetical index (➠ 149).

Chapter 1 of this Rider's Manual will provide you with an initial overview of your motorcycle. When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of your motorcycle.

Symbols and abbreviations

Indicates warnings that you must comply with for reasons of your safety and the safety of others, and to protect your motorcycle against damage.

Special information on operating and inspecting your motorcycle as well as maintenance and adjustment procedures.

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

(➠ 4) Reference to a page with more detailed information.

OE Optional equipment
Your motorcycle was assembled complete with all the optional equipment you ordered.

OA Optional accessory
You can obtain optional accessories through your authorized BMW motorcycle retailer; optional accessories have to be retrofitted to the motorcycle.

EWS Electronic immobilizer.

DWA Anti-theft alarm system.

ABS Anti-lock braking system.

Custom equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual describes optional equipment (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment which you have not ordered. Please note, too, that your motorcycle might not be exactly as illustrated in this manual on account of country-specific differences.
If your BMW was supplied with equipment not described in this Rider's Manual, you will find these features described in separate manuals.

Technical data

All dimensions, weights and power ratings stated in the Rider's Manual are quoted to the standards and comply with the tolerance requirements of the Deutsche Institut für Normung e. V. (DIN). Versions for individual countries may differ.

Currency

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. Nor can errors and omissions be entirely ruled out. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

BMW Service

Advanced technology requires specially adapted methods of maintenance and repair.

If maintenance and repair work is performed inexpertly, it could result in consequential damage and thus constitute a safety risk. BMW recommends that you have the necessary work on your motorcycle performed either by an authorized BMW motorcycle retailer or by a workshop that operates to BMW specifications and employs suitably trained personnel.◀

Your authorized BMW motorcycle retailer can provide information on the specified Service, Inspection and Annual Inspection work needed.

Have all maintenance and repair work carried out confirmed in the "Service" chapter (➠ 138) in this manual.

Authorized BMW motorcycle retailers are supplied with the latest technical information and have the necessary technical know-how. Consequently, we recommend that you contact your authorized BMW motorcycle retailer if you have any questions regarding your motorcycle.

Rider's equipment

Do not ride without the correct clothing. Always wear:
– helmet
– motorcycling jacket and trousers
– gloves
– boots

This applies even to short journeys, and to every season of the year. Your authorized BMW motorcycle retailer will be glad to advise you on the correct clothing for every purpose.

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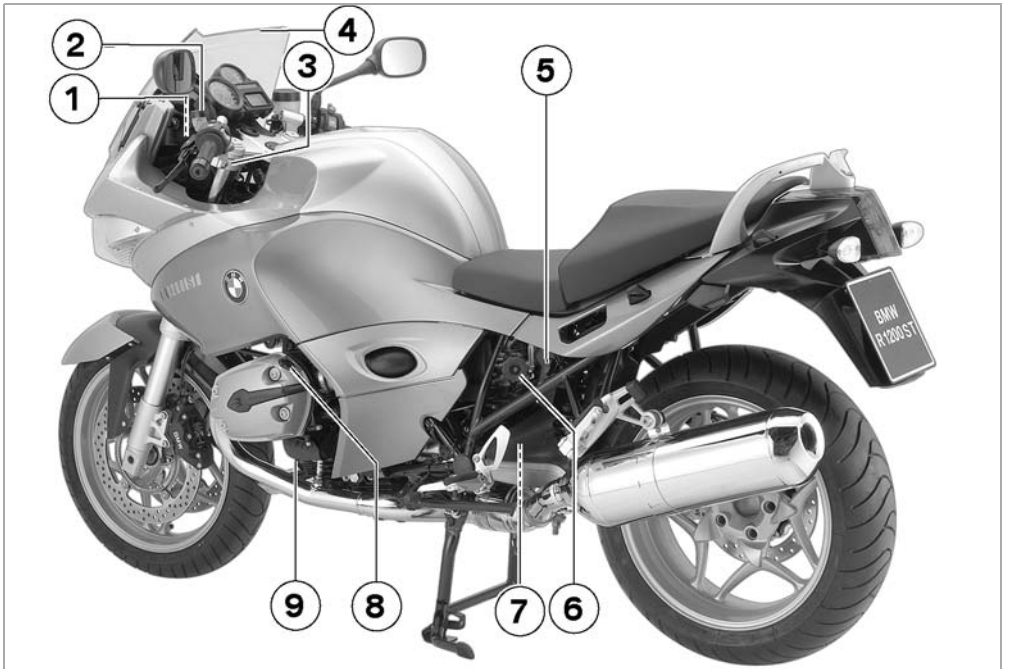
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R1200ST

General view, left side

1 Beam throw adjustment (➠ 41)
2 Clutch fluid reservoir (➠ 96)
3 Handlebar height adjustment (➠ 40)
4 Adjustable windshield (➠ 47)
5 Onboard socket (➠ 78)
6 Adjuster, spring preload, rear (➠ 47)
7 Adjuster, rear shock absorber (➠ 48)
8 Filler neck, engine oil (➠ 91)
9 Oil sight glass (➠ 90)

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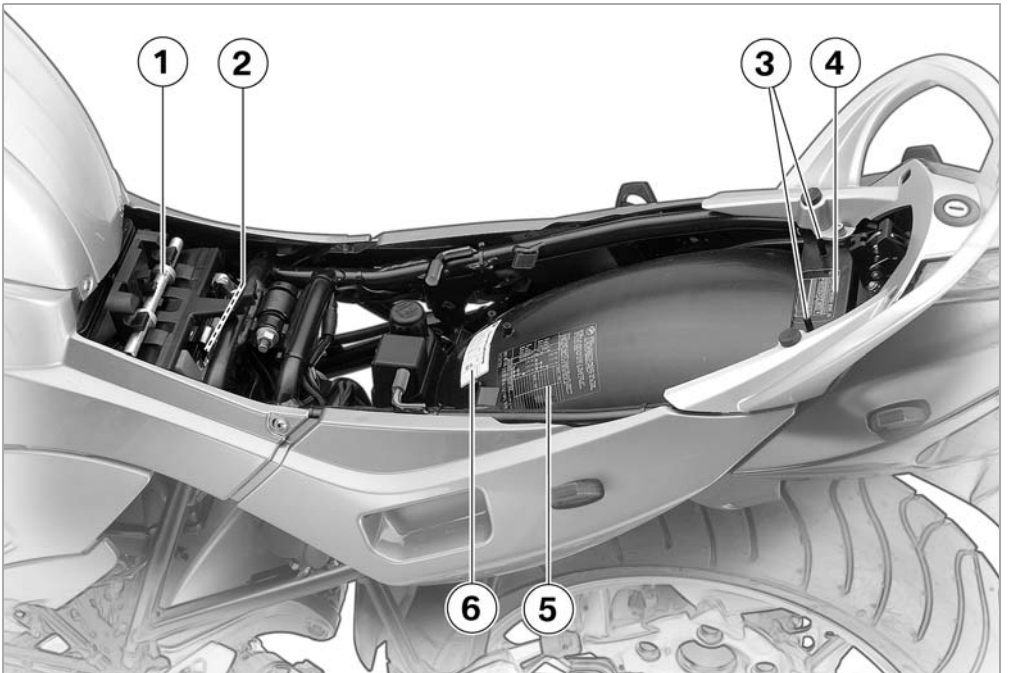
General view, right side

1 Seat lock (➠ 43)
2 Brake-fluid reservoir, rear (➠ 94)
3 Vehicle identification number
4 Brake-fluid reservoir, front (➠ 94)
5 Case carrier (➠ 81)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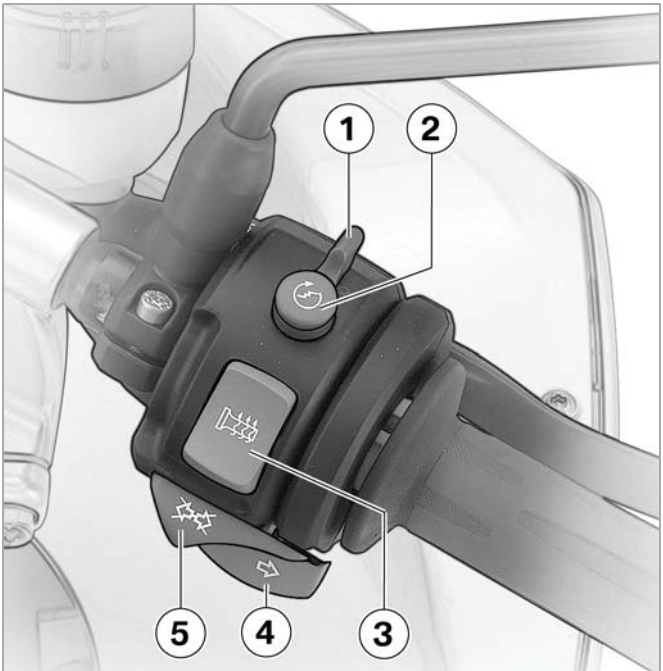
Underneath the seat

1 Height adjuster, front seat (➠ 44)
2 Battery (➠ 111)
3 Helmet holder (➠ 46)
4 Type plate
5 Tire pressure table
6 Label, payload

Handlebar fitting, left

1 Pushbutton, Tripmaster (➠ 35)
2 Pushbutton, hazard warning flashers (➠ 34)
3 Pushbutton, horn
4 Pushbutton, left flashing turn indicators (➠ 42)
5 Switch, high-beam headlight and headlight flasher (➠ 41)



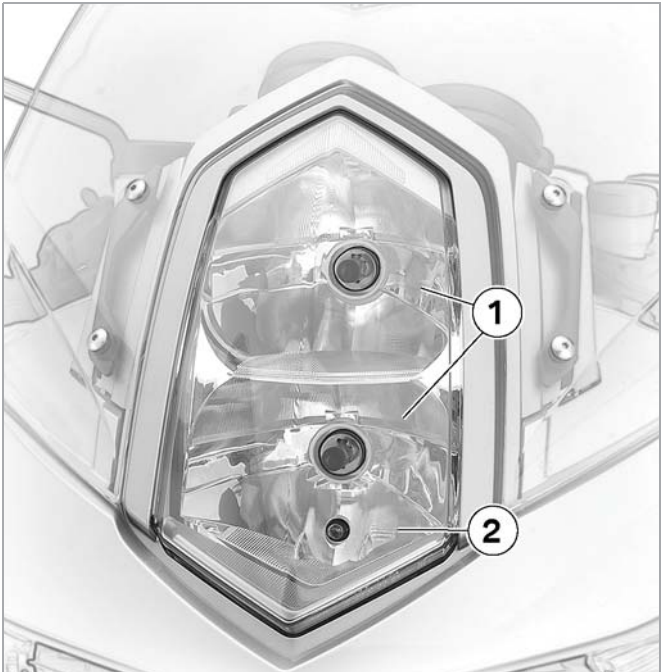
Handlebar fitting, right

1 Emergency ON/OFF switch (➠ 37)
2 Pushbutton, starter (➠ 58)
3 Switch, grip heating[OE] (➠ 38)
4 Pushbutton, flashing turn indicators, right (➠ 42)
5 Pushbutton, flashing turn indicators off (➠ 43)

Instrument cluster

1 Speedometer
2 Rev. counter
3 Warning and indicator lights (➠ 20)
4 Multifunction display (➠ 20)
5 Indicator light DWA^{OE} and sensor for lighting of instrument panel
6 Adjuster, clock (➠ 37)

▷ The lighting of the instrument panel is equipped with an automatic day and night switchover.◀



Headlight

1 Low and high-beam headlight (➠ 106)
2 Side lights (➠ 107)

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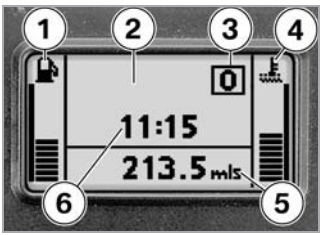
Multifunction display



1 Fuel gauge
2 Display area for warning symbols
3 Gear indicator
4 Display, engine oil temperature
5 Display, Tripmaster (➠ 35)
6 Clock

Fuel capacity

The height of the bar indicates the level of fuel in the fuel tank.

Gear indicator

The gear indicator shows which gear is selected. If no gear is engaged, the gear indicator displays 0; the 'neutral' indicator light also lights up.

Engine oil temperature

The height of the bar indicates the engine oil temperature.

Warning and indicator lights

1 Indicator light, left turn indicator
2 Indicator light, high-beam headlight
3 Warning light, general
4 Indicator light, neutral
5 ABS warning light
6 Indicator light, right turn indicator

Warning indicators

Warnings are displayed by means of symbols in the multi-function display. In some cases, an additional general warning light lights up red or yellow. A number of warnings may be issued simultaneously.

Overview

The warnings are listed in the table below, along with the page numbers of the pages you can refer to for more information.

Light	Symbol	Meaning	Explanations
	EWS	Ignition key not authorized	(➠ 24)
		Low-beam headlight, high-beam headlight or side light defective	(➠ 26)
		Bulb failure. Double flashing frequency: Turn indicator defective	(➠ 26)
yellow		Rear light or brake light bulb defective	(➠ 26)
yellow		Fuel down to reserve	(➠ 24)
yellow		Fault in the engine electronics	(➠ 24)
red		Engine-oil temperature too high	(➠ 24)
red		Engine-oil pressure too low	(➠ 25)

Light	Symbol	Meaning	Explanations
red		Battery is no longer being charged	(➠ 25)
red		Brake switch defective	(➠ 27)
	1 flash per second	ABS function not available, as pull-away test not completed	(➠ 27)
	4 flashes per second	Only residual braking function available, as ABS self-diagnosis not completed	(➠ 27)
red		Control of ABS warning lights defective	(➠ 28)
red	1 flash per second	ABS function not available in one or both brake circuits	(➠ 28)
red	4 flashes per second	Only residual braking function available in one or both brake circuits	(➠ 29)
1 red flash per second	1 flash per second	Insufficient brake fluid	(➠ 29)
4 red flashes per second	4 flashes per second	Insufficient brake fluid; only residual braking function available	(➠ 30)

Electronic immobilizer

Immobilizer symbol is displayed.

The key being used is not authorized for starting, or communication between key and engine electronics is disrupted.

- Remove all other vehicle keys located near the ignition key (➠ 32).
- Use the reserve key.
- Have the defective key replaced, preferably by an authorized BMW motorcycle retailer (➠ 34).

Fuel reserve

General warning light lights up yellow.

Fuel reserve symbol is displayed and flashes 10 times.

The fuel tank contains a fuel reserve of a maximum of 4 liters. The Tripmaster indicates the probable residual operating range (➠ 36).

Lack of fuel can result in the engine cutting out unexpectedly and this could result in a hazardous situation. Do not run the fuel tank dry.◀

Lack of fuel could result in misfiring and this in turn could damage the catalytic converter.
Do not run the fuel tank dry.◀

- Refuel.

Oil temperature

General warning light lights up red.

Oil temperature gauge flashes 10 times.

Oil temperature too high.

Continuing to ride with the engine overheated can result in engine damage.◀

- If possible, ride in the part-load range to cool down the engine.
- Switch off the engine if you are caught in a traffic jam.

Engine electronics

General warning light lights up yellow.

Engine electronics symbol is displayed.

Fault in the engine electronics. In exceptional cases, the engine stops and can no longer be started. Otherwise, the engine runs in emergency operating mode.

You can continue to ride, but bear in mind that the usual engine output is not available.

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Engine oil pressure

General warning light lights up red.

Engine oil pressure symbol is displayed.

Insufficient engine oil pressure. The "engine oil pressure" warning indicates that there is no oil pressure or that the oil pressure in the lubricating oil circuit is too low; under no circumstances is it to be regarded as fulfilling the function of an oil gauge. The warning must disappear when oil pressure builds up 1 to 2 seconds after the engine starts.

If the "engine oil pressure" warning is displayed while the motorcycle is being ridden, take account of the traffic situation and:

- Disengage the gear.
- Operate the emergency ON/OFF switch.
- Bring the motorcycle safely to a halt.
- Check the engine oil level (➠ 90).

There are other engine-related problems besides a low engine-oil level that can trigger the "engine-oil pressure" warning. Continuing to ride in these cases can cause engine damage.

If the "engine oil pressure" warning is issued, do not continue to ride if a check shows that the engine oil level is correct.◀

- Have the fault rectified by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Battery charge current

General warning light lights up red.

Battery charge current symbol is displayed.

The battery is no longer being charged. You can continue to ride only until the battery is discharged.

A discharged battery can result in the engine cutting out unexpectedly, causing a hazardous situation.
If possible, do not continue your journey.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

In case of insufficient battery voltage, the ABS function (➠ 73) is not available.◀

Defective bulb

A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

General warning light lights up yellow.
Defective bulb symbol with arrow pointing to the rear is displayed.

Rear light or brake light bulb defective.
- Replace bulbs (➠ 108).

Defective bulb symbol with arrow pointing upward is displayed.

Low-beam headlight, high-beam headlight, side-light or turn-indicator bulb defective.
- Replace bulbs (➠ 106).

Defective bulb symbol with two arrows is displayed.

A combination of the bulb defects described above has occurred.
- Replace bulbs (➠ 106).

ABS warnings

ABS warnings are indicated by a combination of the general warning light and the ABS warning light. Both warning

lights can light up continuously or flash at a rate of one or four flashes per second.

General warning light

General warning light lights up red.

Brake switch defective or incorrectly adjusted. BMW Integral ABS detects the driver's braking request by the pressure build-up from the brake lever. There may be an unusual response from the brakes. You can continue to ride. However, bear in mind that the brakes may respond in a manner to which you are not accustomed.

There is a defect in the brake system that can lead to abnormal braking. Think well ahead and brake carefully; avoid severe braking.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

ABS warning light

ABS warning light flashes once per second.

ABS function not available because pull-away test (➠ 61) not completed.
You can continue to ride. To prevent the wheels from locking:

- Do not use emergency braking until the pull-away test has been completed.

Without the ABS function, the wheels could lock under braking.
Think well ahead and brake carefully; avoid severe braking.◀

ABS warning light flashes four times per second.

Only residual braking function available in both brake circuits, because self-diagnosis (➠ 57) has not been completed.
You can continue to ride. However, bear in mind that until self-diagnosis has completed, neither the ABS function nor the brake booster is available.

Without the ABS function, the wheels could lock under braking; without servo-assisted brakes, considerably greater force is required to brake.
Think well ahead and brake carefully; avoid severe braking.◀

- As soon as the traffic situation permits, end ABS self-diagnosis (do not actuate brake lever).

General warning light and ABS warning light

General warning light lights up red.

ABS warning light ON.

The ABS warnings control is defective. ABS faults cannot be displayed.
You can continue to ride, but bear in mind that you will not receive warning of ABS faults, if they occur.

ABS warnings not available. ABS faults cannot be indicated.
Think well ahead and brake carefully; avoid severe braking.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

General warning light red.

ABS warning light flashes once per second.
ABS function (➠ 74) unavailable in at least one brake circuit.
You can continue to ride. However, bear in mind that the ABS function is not available.

Without the ABS function, the wheels could lock under braking.
Think well ahead and brake carefully; avoid severe braking.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

General warning light red.

ABS warning light flashes 4 times per second.

Only residual braking function (➠ 75) available in at least one brake circuit.
You can continue to ride. However, bear in mind that neither the ABS function nor the brake booster is available.

Without the ABS function, the wheels could lock under braking; without servo-assisted brakes, considerably greater force is required to brake.
Think well ahead and brake carefully; avoid severe braking.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

General warning light flashes red once per second.

ABS warning light flashes once per second.

Fluid level in BMW Integral ABS too low.

This case involves a wheel brake circuit for which the fluid level cannot be read from the brake-fluid reservoirs.◀

Several factors, including very badly worn brake pads, can trigger this warning.

Worn brake pads can lengthen braking distance by a significant margin. Think well ahead and brake carefully; avoid severe braking.◀

Worn brake pads can damage the brake discs. Think well ahead and brake carefully; avoid severe braking.◀

- Stop and check the thickness of the brake pads (➠ 93).
- Have worn brake pads replaced as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

If brake pad thickness is sufficient:

- Check the following functions:

– Ignition off, brake pressure present at the brake levers.
– Brakes acting on both wheels.
– Brake system leaktight, no signs of brake fluid escaping.

If any of the above criteria are not satisfied:

There is a defect in the brake system.
Do not continue to ride.◀

If these criteria are satisfied, you can continue riding. However, bear in mind that a loss of brake fluid that cannot be detected might be the cause of the warning.

There is a fault in the brake system that can lead to decreased braking efficiency.
Think well ahead and brake carefully; avoid severe braking.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

General warning light flashes red four times per second.

ABS warning light flashes 4 times per second.

There are two faults:

– Only residual braking function (➠ 75) available in at least one brake circuit, indicated by the general warning light and the ABS warning light flashing 4 times per second.
– Fluid level in the BMW Integral ABS is too low, indicated by the general and ABS warning lights flashing once per second.

See the fault descriptions above.

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Ignition switch and steering lock

Keys

You receive one master key and one spare key. If a key is lost, please note the information on the electronic immobilizer (EWS) (➠ 24).

Ignition key and steering lock, tank filler cap lock and seat lock are all operated with the same key. On request, the case[OA] and the topcase[OA] can also be operated with the same key.◀

Switching on ignition

- Turn the key to the ○ position.
» Side lights and all function circuits switched on.
» Pre-ride check is performed (➠ 55).
» ABS self-diagnosis is performed (➠ 57).
» Engine can be started.

Switching off ignition

- Turn the key to the ⊗ position.
» Ignition and lights are switched off.
» Electrically powered accessories remain operational for a limited period of time (➠ 79).
» The battery can be recharged via the onboard socket (➠ 112).
» Handlebars not locked.
» In this position, you can remove the key.

Locking handlebars

- Turn the handlebars to the full left or right lock position.
- Turn the key to the position for OFF, while moving the handlebars slightly.

» Ignition, lights and all function circuits switched off.
» Handlebars locked.
» In this position, you can remove the key.

When you prop the motorcycle on the side stand, the surface of the ground will determine whether it is better to turn the handlebars to the left or right. On level ground, a secure stance is ensured only with the handlebars turned to the left.
On level ground, always turn the handlebars to the left and lock them in this position.◀

Brake servo assistance is not available when the ignition is off.
Do not switch off the ignition while the motorcycle is being ridden.◀

Electronic immobilizer

The electronic immobilizer helps protect your BMW motorcycle from theft, and this enhanced security is at your disposal without any need for you to set parameters or activate additional systems. The engine of a motorcycle fitted with this electronic immobilizer can be started only with the keys that belong to the vehicle. You can also have your authorized BMW motorcycle retailer bar individual keys, for example if a key goes missing. The engine cannot be started with a key that has been barred.

In-key security

An electronic component is integrated into each of your keys. The motorcycle's electronics exchange certain continuously changing signals with the electronics in the key; these signals are specific to your motorcycle and they are transmitted via the ring aerial in the ignition lock. The ignition is not enabled for starting until the key has been recognized as authorized for your motorcycle.

A spare key attached to the same ring as the ignition key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The EWS warning is displayed in the multifunction display.

Always keep the spare key separate from the ignition key.◀

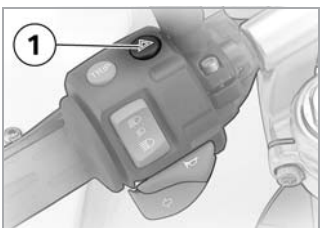
Replacement and extra keys

You can obtain replacement/extra keys only through an authorized BMW motorcycle retailer. The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all applications for replacement/extra keys.

If you want to have a lost key barred, you must bring along all the keys that belong to the motorcycle. A key that has been barred can subsequently be cleared and reactivated for use.

Hazard warning flashers

Switching on hazard warning flashers



- Switch on the ignition.
- Press hazard warning flashers button **1**.

» Hazard warning flashers in operation.

» Left/right turn indicator lights flash.

- Switch off the ignition.

» The hazard warning flashers continue to operate.

» Left/right turn indicator lights flash.
• Switch off the ignition.
» The hazard warning flashers continue to operate.
» Left/right turn indicator lights off.

You can also switch on the hazard warning flashers by simultaneously pressing the buttons for the left and right turn indicators.◀

The hazard warning flashers place a strain on the battery. Do not use the hazard warning flashers for longer than absolutely necessary.◀

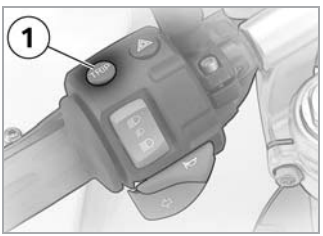
Switching off hazard warning flashers

• Press hazard warning flashers button **1**.
» Hazard warning flashers cease to operate.

Switching on a turn indicator temporarily deactivates the hazard warning flashers. The hazard warning flashers switch on again as soon as the turn indicator is canceled.◀

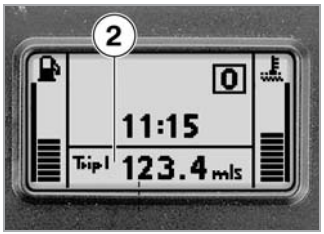
Tripmaster

Selecting readings



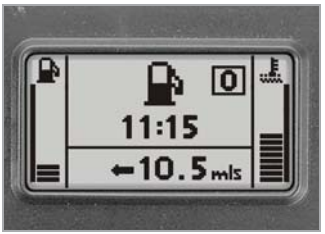
When you switch on the ignition, the information shown by the Tripmaster when the ignition was switched off always reappears on the multifunction display.◀

• Switch on the ignition.
• Press the Tripmaster button **1** once briefly.



» The following appear in the display field **2** in this order:
– Total distance covered
– Tripmeter 1 (Trip I)
– Tripmeter 2 (Trip II)
– Residual range

Residual range



Residual range
Residual range is calculated on the basis of your style of riding and the amount of fuel left in the tank; the reading indicates the estimated distance you can travel before the fuel supply runs out.
If the motorcycle is resting on its side stand, the level in the tank cannot be measured correctly, so this estimate of residual operating range will be inaccurate.

When you refuel (ignition switched off) the Tripmaster does not register the increase in fuel level unless more than 2 liters are added to the fuel already in the tank. The tank must contain at least 5 liters of fuel for the fuel-gauge reading and the residual range to be recalculated.
The residual range is only an approximate reading. Consequently, you should not try to use the full residual range before refueling.

Resetting tripmeter

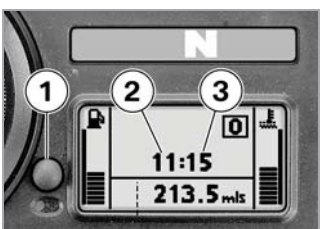
- Switch on the ignition.
- Select the desired tripmeter.
- Press the Tripmaster button for longer than 2 seconds.

» The tripmeter is reset to zero.

Clock

Attempting to set the clock while riding the motorcycle can lead to accidents. Set the clock only when the motorcycle is stationary.◀

- Switch on the ignition.



- Press button **1** for longer than 2 seconds.

» Hours reading **2** starts to flash.

- Briefly press button **1**.

» The hour increments by one each time you press the button.

- Press button **1** for longer than 2 seconds.

» Minutes reading **3** starts to flash.

- Briefly press button **1**.

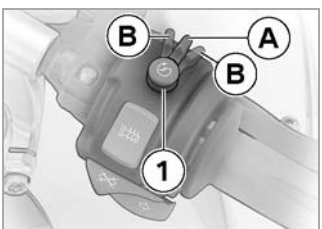
» The minute increments by one each time you press the button.

- Press button **1** for longer than 2 seconds.

» Setting confirmed.

Emergency ON/OFF switch

The Emergency ON/OFF switch is used to switch off the engine during or after a fall.



Actuating the emergency ON/OFF switch while driving can cause the rear wheel to lock up, resulting in a fall.
Do not operate the emergency ON/OFF switch when riding.◀

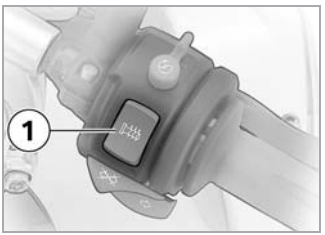
- Turn emergency ON/OFF switch **1** to left or right to position **B**.

» The engine electronics control unit switches the engine off.

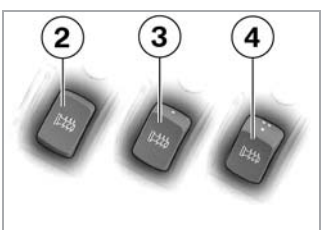
» The engine cannot be started while the switch is in this position.

If you move the emergency ON/OFF switch to the **B** position while the ignition is switched on, the BMW Integral ABS remains operational (➠ 73).◀

Grip heating[OE]



1 Grip heating switch



2 Heating function off
3 50% heating power (one dot)
4 100% heating power (three dots)

Grip heating can be activated only when the engine is running.

The increase in power consumption caused by the grip heating can drain the battery if you are riding at low engine speeds. If the charge level is low, grip heating is switched off to ensure the battery's starting capability.◀

Handlebar levers

Adjusting clutch lever

Attempting to adjust the clutch lever while riding the motorcycle can lead to accidents. Adjust the clutch lever only when the motorcycle is stationary.◀

- Use the adjusting screw **1** to set the clutch lever reach.

» Turn clockwise: reach is increased.

» Turn counter-clockwise: reach is reduced.

The adjusting screw has a limit position and can be turned more easily when you press the clutch lever forward.◀

Adjusting handbrake lever

Attempting to adjust the brake lever while riding the motorcycle can lead to accidents.
Adjust the brake lever only when the motorcycle is stationary.◀

- Use the adjusting screw **1** to set the front brake lever reach.

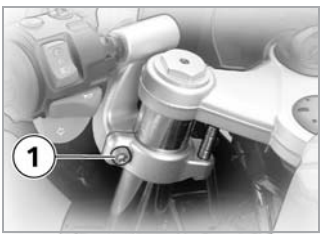
» Turn clockwise: reach is increased.

» Turn counter-clockwise: reach is reduced.

The adjusting screw has a limit position and can be turned more easily when you press the brake lever forward.◀

Adjusting handlebars

The two handlebar halves can be adjusted to three different heights.



- Loosen screws **1** on left and right.
- Push handlebar halves into desired position. Make sure handlebar is properly seated (audibly engages).
- Tighten screws to 19 Nm.
- Make sure both handlebar halves are adjusted to same height.

Lights

Side lights

The side lights switch on automatically when the ignition is switched on.

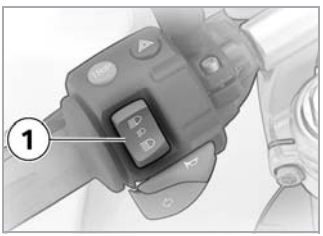
The side lights are a strain on the battery. Do not switch the ignition on for longer than absolutely necessary.◀

Low-beam headlight

The low-beam headlight switches on automatically when you start the engine.

With the engine switched off, you can switch on the lights by switching on the high-beam headlight with the ignition switched on or by operating the headlight flasher.◀

High-beam headlight/ headlight flasher



- Press the top part of switch **1** for the high-beam headlight.

» High-beam headlight switched on.

- Move switch **1** for the high-beam headlight to the center position.

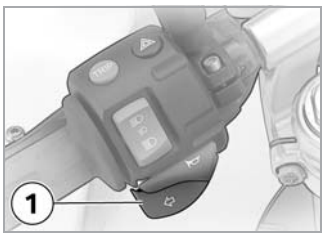
» High-beam headlight switched off.

- Press the bottom part of switch **1** for the high-beam headlight.

» Headlight flasher.

Side lights

You can switch on the side lights only immediately after switching off the ignition.



- Switch off the ignition.
- Press left-hand turn indicator switch **1**.

» Side lights switched on.

- Switch the ignition on and off again.

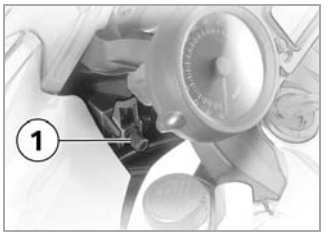
» Side lights switched off.

Adjusting headlight beam throw

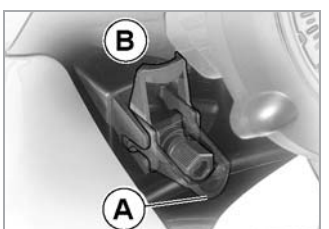
Headlight beam throw is kept constant when spring preload is adjusted to suit load.

- Adjust the spring-preload and shock-absorber settings to suit load (➠ 47).
- Consult a specialist workshop, preferably an authorized BMW motorcycle retailer, if you are unsure whether the headlight basic setting is correct.

Spring preload adjustment might not suffice if the motorcycle is very heavily loaded. To avoid dazzling oncoming traffic:



- Use pivot lever **1** to adjust the headlight.



A Neutral position
B High load

Adjusting headlight for RHD/LHD traffic

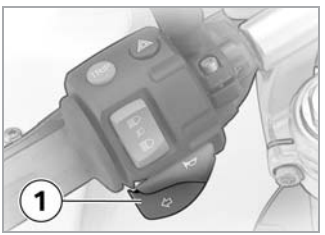
When riding in countries where traffic drives on the opposite side of the road to that in which the vehicle was registered, the asymmetric low headlight beam will dazzle oncoming traffic.

Adhesive films with unsuitable adhesives can damage the plastic of the headlight lens.
Use only suitable adhesive films.◀

- Have the headlight adjusted to the relevant conditions by a specialist workshop, preferably an authorized BMW motorcycle retailer.

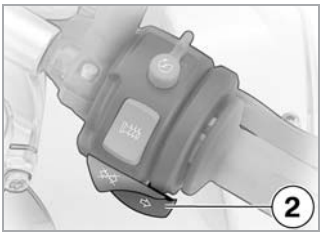
Turn indicators

Switching on turn indicators



- Press left-hand turn indicator button **1**.

» Left-hand turn indicator switched on.
» Indicator light for left-hand turn indicator flashes.

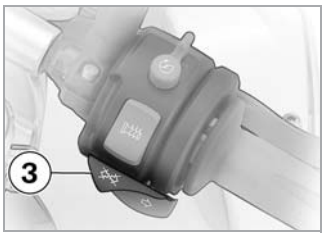


- Press right-hand turn indicator button **2**.

» Right-hand turn indicator switched on.

» Indicator light for right-hand turn indicator flashes.

Switching off turn indicators



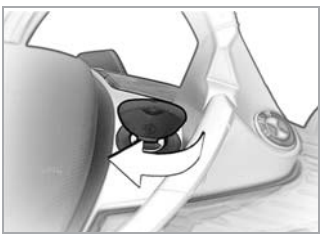
- Press cancel button **3**.

» Turn indicator off.

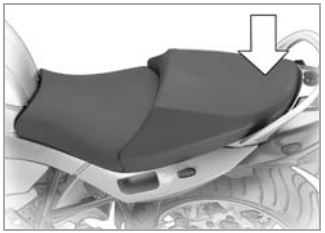
» Turn indicator light is off.

Front and rear seats

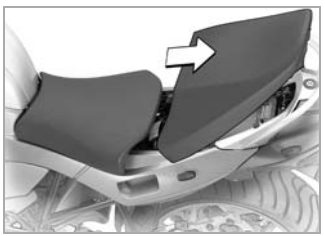
Removing seats



- Turn the key clockwise in the seat lock.



- When doing so, press the rear seat down.
- Lift the seat at the rear and release the key.



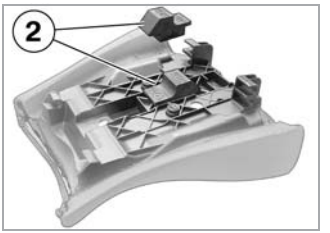
- Pull the seat to the rear to release it from its holders.

- Lift the driver's seat at the rear and remove it upward.

Adjusting front seat

The front seat can be raised or lowered to either of two positions.

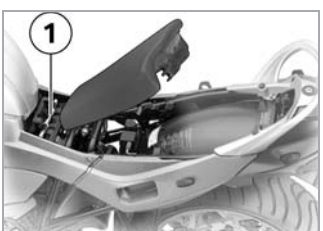
- Adjust the seat by removing seat supporting rod **1** and reinserting it in the appropriate holder.



- Remove the rubber wedge **2** on the underside of the driver's seat from the seat and reinsert it in the desired position.

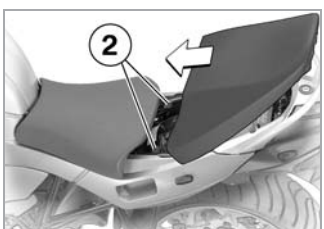
Installing seats

If too much pressure is applied in the forward direction, there is a danger that the motorcycle will be pushed off its stand.
Make sure that the motorcycle is steady on its stand.◀

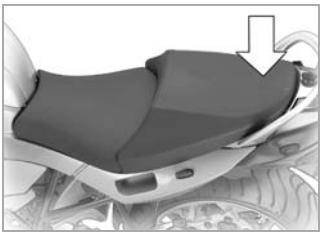


- Push the driver's seat forward into the retaining brackets **1**.

- Check that the seat is correctly seated.



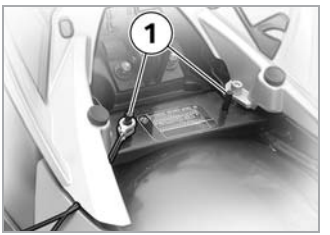
- Position the rear seat so that the tongues grip under the related brackets **2**.



- Firmly press down on the seat at the rear.

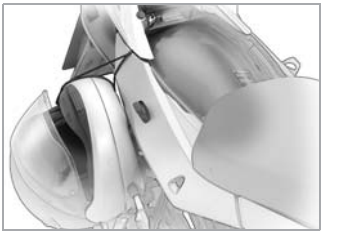
» The seat engages with an audible click.

Helmet holder



The helmet holders **1** are mounted at the rear under the rear seat.

- Remove the rear seat (➠ 43).

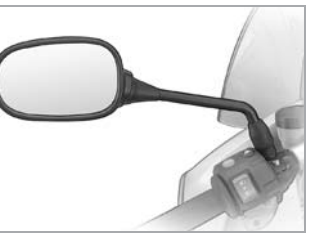


- Use the steel cable from the toolkit to secure the helmet to the holder: guide the cable through the helmet and push the cable eyes onto the holder.
- Install the seat.

⚠ The helmet catch can scratch the side panel. Note the position of the helmet catch when you secure the helmet.◀

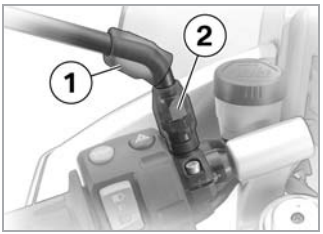
Mirrors

Adjusting mirrors



- Move the mirrors into the desired position by turning them.

If the mirror adjustment is insufficient, the mirror arm can also be adjusted:



- Push the protective cap **1** up over the threaded fastener on the mirror arm.
- Loosen the union nut **2**.
- Turn the mirror arm into the desired position.
- Retighten the union nut.
- Pull the protective cap over the threaded fastener.

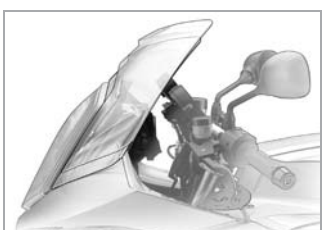
Windshield

Adjusting windshield

The windshield can be adjusted to three different heights.

- Raise or lower the windshield by hand as required.

» The windshield engages with an audible click.



Do not adjust the windshield while driving. Stop the motorcycle to adjust the windshield.◀

Spring preload

Adjusting spring preload for rear wheel

The spring preload must be adapted to the load of the motorcycle. Increase spring preload when the motorcycle is heavily loaded and reduce spring preload accordingly when the motorcycle is lightly loaded.

- Make sure the ground is level and firm and park the motorcycle.

To increase spring preload:
- Turn knob **1** in the direction indicated by the HIGH arrow.

To decrease spring preload:
- Turn knob **1** in the direction indicated by the LOW arrow.

Basic setting for one-up riding:
- Set the knob to the "STD" mark on scale at the side (red dots).

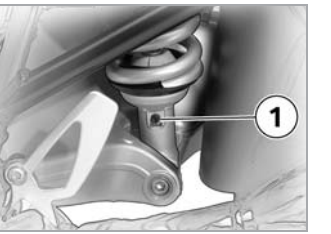
This is the basic setting for a motorcycle carrying a full load of fuel and a rider weighing 187 lbs (85 kg).◀

Your motorcycle's handling will suffer if you do not match the spring-preload and damping-characteristic settings.
Adjust the damping characteristic to suit spring preload.◀

Shock absorbers

Adjusting rear shock absorber

The damping must be adapted to the spring preload. An increase in spring preload requires firmer damping, and a reduction in spring preload requires softer damping.
- Make sure the ground is level and firm and park the motorcycle.



- Adjust the rear shock absorber, using a screwdriver to turn adjusting screw **1**.

Harder damping:
- Turn adjusting screw **1** in the direction indicated by the **H** arrow.

Softer damping:
- Turn adjusting screw **1** in the direction indicated by the **S** arrow.

Basic setting for one-up riding:
- Turn adjusting screw **1** all the way in the direction indicated by the **H** arrow.
- Turn the adjusting screw **1** one turn in the direction of the arrow **S**.

This is the basic setting for a motorcycle carrying a full load of fuel and a rider weighing 187 lbs (85 kg).◀

Your motorcycle's handling will suffer if you do not match the spring-preload and damping-characteristic settings.
Adjust the damping characteristic to suit spring preload.◀

Wheels

Checking tire pressures

Incorrect tire pressures adversely affect the handling of the motorcycle and can lead to accidents.
Always keep the tires inflated to the specified pressures.◀

Incorrect tire pressures result in accelerated tire wear.
Always keep the tires inflated to the specified pressures.◀

The correct tire pressures (measured with tires cold) are:
One-up:
- front 31.9 psi (2.2 bar)
- rear 36.3 psi (2.5 bar)

One-up with luggage:
- front 36.3 psi (2.5 bar)
- rear 42 psi (2.9 bar)

Two-up (with luggage):
- front 36.3 psi (2.5 bar)
- rear 42 psi (2.9 bar)

At high road speeds, tire valves have a tendency to open as a result of centrifugal force.
Fit metal valve caps with rubber seals and screw them on firmly to prevent sudden deflation.◀

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Removing motorcycle from side stand 67
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Pushing motorcycle off center stand[OE/OA] 71
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Safety instructions

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:

- settings of the spring-strut and shock absorber system
- imbalanced load
- loose clothing
- insufficient tire pressure
- worn tires
- etc.

Correct loading

Overloading can adversely affect the motorcycle's handling.
Do not exceed the permissible total weight (➠ 135).◀

Alcohol and drugs

Even small amounts of alcohol or drugs will adversely affect your perception and your ability to assess situations and make decisions, and slow down your reflexes. Medication can exacerbate these effects.
Do not ride your motorcycle after consuming alcohol, drugs or medication.◀

Risk of poisoning

Exhaust fumes contain carbon monoxide, which is colorless and odorless but highly toxic.

Inhaling the exhaust fumes therefore represents a health hazard and can even cause loss of consciousness with fatal consequences.
Do not inhale exhaust fumes. Do not run the engine in an enclosed space.◀

High voltage

Touching live parts of the ignition system with the engine running can lead to electric shocks.
Do not touch parts of the ignition system when the engine is running.◀

Catalytic converter

If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage.
For this reason, observe the following points:

– Do not run the fuel tank dry.
– Do not attempt to start or run the engine with a spark-plug cap disconnected.
– Stop the engine immediately if it misfires.
– Use only unleaded fuel.
– Comply with all specified maintenance intervals.

Unburned fuel will destroy the catalytic converter.
Note the points listed for protection of the catalytic converter.◀

Risk of fire

Temperatures at the exhaust are high.

Flammable materials (e.g. hay, leaves, grass, clothing and luggage, etc.) could ignite if allowed to come into contact with the hot exhaust pipe.
Do not permit flammable materials to come into contact with the hot exhaust system.◀

Cooling would be inadequate if the engine were allowed to idle for a lengthy period with the motorcycle at a standstill: overheating would result. In extreme cases, the motorcycle could catch fire.
Do not allow the engine to idle unnecessarily. Ride away immediately after starting the engine.◀

Tampering with control unit of electronic engine-management system

Tampering with the control unit of electronic engine-management system can damage the motorcycle and cause accidents.
Do not tamper with the control unit of the electronic engine-management system.◀

Tampering with the control unit of electronic engine-management system can result in mechanical loads that the motorcycle's components are not designed to withstand. Damage caused in this way is not covered by the warranty.
Do not tamper with the control unit of the electronic engine-management system.◀

Safety check

Prior to every journey

Use the following checklist to check important functions, settings and wear limits before you ride off.

Checklist

- Brakes (➠ 91)
- Brake fluid level (➠ 94)
- Clutch (➠ 96)
- Warning and indicator lights (➠ 20)
- Shock absorber setting (➠ 48) and spring preload (➠ 47)
- Wheel rims (➠ 97), tread depth (➠ 97) and tire pressures (➠ 49)
- Load, gross weight (➠ 135)
- Luggage system (➠ 81)

At regular intervals:

- Engine oil level (every time you refuel) (➠ 90)
- Brake pads (every second/ third time you refuel) (➠ 92)

First time out

Safe handling of your motorcycle

You have to take the time to familiarize yourself with your motorcycle's unique character:

- Acceleration
- Roadholding
- Cornering
- Braking

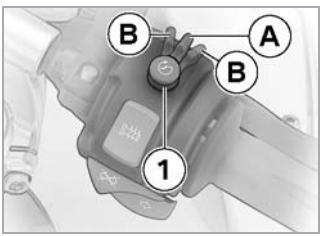
Bear in mind, too, that the engine has to be run in over the first 600 miles (1,000 km) (➠ 61).

The description of the BMW Integral ABS starts on page (➠ 73).

⚠ BMW Integral ABS incorporates a brake booster, so braking efficiency is significantly higher than with conventional brake systems. Inadvertently severe braking can lead to dangerous situations, particularly when the motorcycle is cornering.
Practice braking with BMW Integral ABS under safe conditions.◀

Before you start

Switching on ignition



- See the notes on the electronic immobilizer (EWS) (➠ 24).
- Emergency ON/OFF switch **1** in operating position **A**.
- Switch on the ignition.

» Pre-ride check is performed.

» With BMW Integral ABS: ABS self-diagnosis is performed.

Pre-ride check

A pre-ride check is performed after you switch on the ignition. Here, the functions of all warning lights and warning symbols are checked. The following are displayed in succession in the multifunction display:

Phase 1

General warning light lights up red.

Engine oil pressure symbol is displayed.

Battery charge current symbol is displayed.

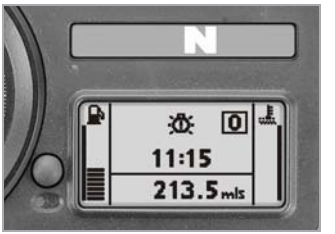
Phase 2

General warning light lights up yellow.

Engine electronics symbol is displayed.

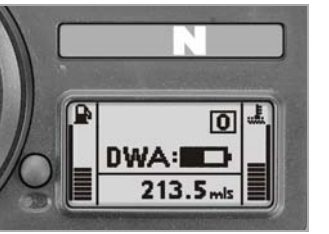
EWS Immobilizer symbol is displayed.

Phase 3



A warning light defect is displayed.

Phase 4 (only with DWA^{OE})



DWA The "DWA" battery warning for the anti-theft alarm appears if the voltage level of the batteries in the anti-theft alarm system^{OE} is too low.

If one of the warning lights or a warning symbol cannot be displayed, any function fault in the corresponding system cannot be displayed.
Watch all lights and symbols on the display.◀

If a light or symbol is not displayed:

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Once the pre-ride check completes, the various gauges and indicators show their current values.

If the engine is started during the pre-ride check, the pre-ride check is canceled.◀

ABS self-diagnosis

The BMW Integral ABS performs self-diagnosis and a pull-away test to ensure its operability (➠ 61). Self-diagnosis is performed automatically when you switch on the ignition.

Self-diagnosis is not performed unless both brake levers are in their fully released positions. Only the residual braking function (➠ 75) is available until self-diagnosis completes.

- Release the brake levers.
- Switch on the ignition.

Phase 1

General warning light lights up.

ABS warning light flashes 4 times per second.

Self-diagnosis is in progress.

Phase 2

ABS warning light flashes once per second.

Self-diagnosis is complete.

The warning light goes out after completion of the starting-off test (➠ 61).

If you switch on the ignition while the brakes are applied, then start the engine and ride off immediately, the BMW Integral ABS remains in its residual braking function mode (➠ 75). Self-diagnosis is performed as soon as the brake levers are in their fully released positions for the first time. Until this completes the ABS function is not available; the same applies to power assistance for the brakes.
Wait for ABS self-diagnosis to complete before you start the engine.◀

Starting on gradients: Switch on the ignition with gear engaged, clutch lever released and both brake levers released. When self-diagnosis completes, apply the brakes, disengage the clutch, and start the engine.◀

Side stand

You cannot start the motorcycle with the side stand extended and a gear engaged.
The engine will switch itself off if you start it with the transmission in neutral and then engage a gear before retracting the side stand.

Transmission

You can start the engine when the transmission is in neutral or if you pull the clutch with a gear engaged. Switch on the ignition before you pull the clutch.
When the transmission is in neutral, the green neutral indicator light is on and the gear indicator in the multifunction display shows 0.

Starting

Do not turn the throttle twistgrip when starting the engine. At ambient temperatures below 32 °F (0 °C), disengage the clutch after switching on ignition.◀

- Press starter button **1**.

» The engine starts.

- Observe instruments and display for warnings and information (➠ 20).

The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine, or use jump leads and a donor battery to start (➠ 112).◀

High engine speeds while the engine is cold accelerate engine wear.
Avoid high engine speeds when the engine is cold.◀

Consult the troubleshooting chart if the engine refuses to start (➠ 60).◀

Troubleshooting chart

Fault: Engine does not start at all or is very difficult to start.

Possible cause	Remedy	See page
Emergency ON/OFF switch activated	Set the emergency ON/OFF switch to its RUN position	(➠ 55)
Side stand extended and gear engaged	Retract the side stand fully	(➠ 67)
Gear engaged, clutch not disengaged	Select neutral or pull clutch lever	(➠ 58)
Clutch pulled when ignition was OFF	Switch on the ignition, then pull the clutch lever	(➠ 55, 58)
No fuel in tank	Refuel	(➠ 71)
Battery not adequately charged	Recharge the battery	(➠ 112)

Riding

ABS pull-away test

ABS warning light flashes once per second.

The BMW Integral ABS checks the ABS sensors when you pull away after starting. The ABS warning light then goes out and the BMW Integral ABS is active.

Running in

- While running in the motorcycle, vary the throttle opening and engine-speed range frequently.
- Try to do most of your riding during this initial period on twisting, fairly hilly roads, avoiding high-speed main roads and highways if possible.

Exceeding the specified engine speeds while running in will lead to increased engine wear.
Keep to the guideline values as stated below.◀

Up to 600 miles (1,000 km) distance ridden

- Engine speed max. 4,000 rpm.
- No full-load acceleration.
- Avoid low engine speeds at full load.
- The first inspection should always be performed between 300 and 750 miles (500 and 1,200 km).

Brake pads

New brake pads must bed down and therefore do not achieve their optimum friction levels during the first 500 km. This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the levers.

New brake pads can extend stopping distance by a significant margin.
Think well ahead and brake carefully; avoid severe braking.◀

Tires

New tires have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tires are run in. This running in procedure is essential if the tires are to achieve maximum grip.

Tires do not have their full grip when new and there is a risk of accident at extreme heeling angels.
Avoid extreme heeling angels.◀

Shifting gears

Engine speed

Do not use the high end of the engine-revolutions range in any gear unless the engine is at operating temperature. When the revolution counter needle enters the red zone on the dial, the throttle-valve angle is limited in order to protect the engine against overrevving. The governor cuts in at 8,000 rpm.

Shifting gears

Attempting to shift gears with the clutch engaged can damage the transmission. Always disengage the clutch in order to shift gears.◀

The gear indicator in the multifunction display tells you which gear is engaged.◀

Placing motorcycle on its side stand

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand.
Always check that the ground under the stand is level and firm.◀

You must be seated on the motorcycle:
- Switch off the engine.
- Pull the handbrake lever.
- Hold the motorcycle upright and balanced.
- Use your left foot to extend the side stand fully (arrow).
- Slowly lean the motorcycle to the side until its weight is taken by the stand and dismount to the left.
- Turn the handlebars up to full left lock.
- Check that the motorcycle is standing firmly.

If the motorcycle is on the side stand, the surface of the ground determines whether it is better to turn the handlebars to the left or right. However, the motorcycle is more stable on a level surface with the handlebars turned to the left than with the handlebars turned to the right.
On level ground, always turn the handlebars to the left and lock them in this position.◀

The side stand is designed to support only the weight of the motorcycle. Do not lean or sit on the motorcycle with the side stand extended.◀

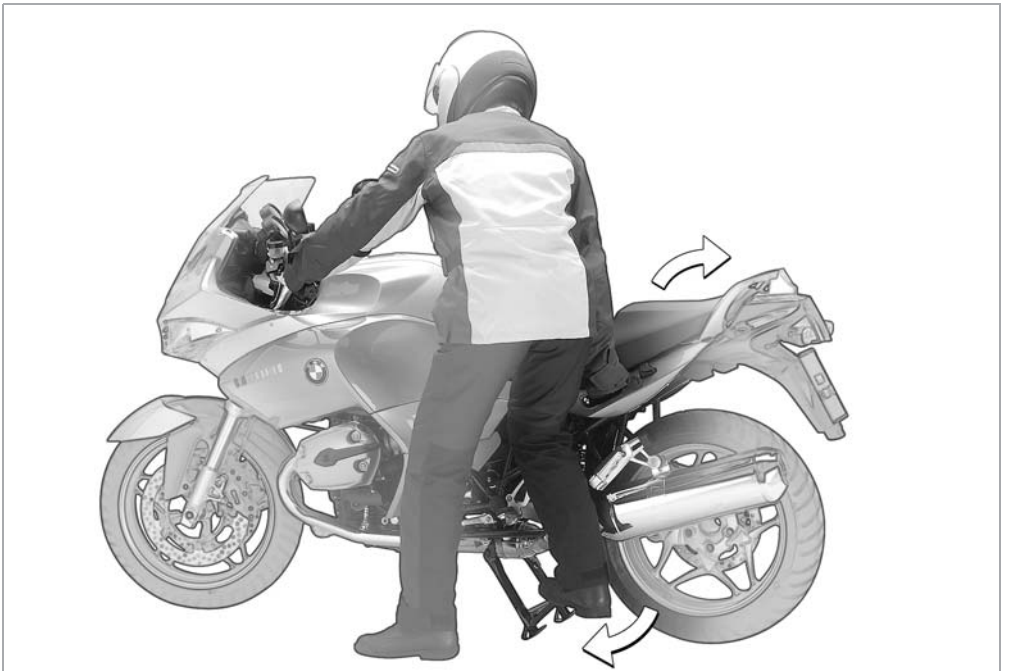
On a gradient, the motorcycle should always face uphill; select 1st gear.◀

Removing motorcycle from side stand

Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll.
Particularly when the motorcycle is parked on a gradient, switch on the ignition and wait for the ABS to complete its self-diagnosis (➠ 57).◀

- Unlock the ignition lock, switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Grasp the handlebars with both hands while standing next to the motorcycle on the left-hand side.
- Pull the handbrake lever.
- Swing your right leg over the seat and lift the motorcycle to the upright position.
- Hold the motorcycle upright and balanced.
- Sit on the motorcycle and use your left foot to retract the side stand.

An extended side stand can catch on the ground when the motorcycle is moving and lead to a fall.
Retract the side stand before moving the motorcycle.◀



Place motorcycle on center stand[OE/OA]

⚠ If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand.
Always check that the ground under the stand is level and firm.◀

- Switch off the engine.
- Dismount and keep your left hand on the left handlebar grip.
- Grasp the handle in the left-hand side panel with your right hand.
- Place your right foot on the pin of the center stand, and press the stand down until its curved feet touch the ground.
- Place the full weight of your body on the center stand, while pulling the motorcycle to the rear (arrow).
- Check that the motorcycle is standing firmly.

⚠ Excessive movements could cause the center stand to retract, and the motorcycle would topple in consequence.
Do not lean or sit on the motorcycle with the center stand extended.◀

Pushing motorcycle off center stand[OE/OA]

Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll.
Particularly when the motorcycle is parked on a gradient, switch on the ignition and wait for the ABS to complete its self-diagnosis (➠ 57).◀

- Unlock the ignition lock, switch on the ignition.
- Wait for ABS self-diagnosis to complete.
- Place your left hand on the left handlebar grip.
- Grasp the handle in the left-hand side panel with your right hand.
- Push the motorcycle forward off the center stand.
- Check that the center stand has fully retracted.

Fuel

Refueling

Fuel is flammable and explosive.
Do not smoke. Never bring a naked flame near the fuel tank.◀

Fuel expands when hot (for instance if the fuel tank is in the sun).
Do not fill the tank past the bottom edge of the filler neck.◀

Fuel can damage plastic parts.
Do not permit fuel to come into contact with body panels.◀

- Make sure the ground is level and firm and place the motorcycle on its center stand or side stand.

- Open the protective cap.
- Open the fuel tank cap with the ignition key by turning counter-clockwise.

- Refuel with fuel of the approved grade.
- Press the filler cap down firmly to close.
- Remove the key and close the protective cap.

Fuel grade

Leaded fuel will destroy the catalytic converter.
Use only unleaded fuel.◀

The engine is designed to run on:
– Premium grade unleaded fuel (98 RON + MON / 2)
Use fuel of this grade by preference, in order to achieve rated performance and fuel consumption.

You can also run the engine on fuel of the following grade:
– Super unleaded fuel (95 RON + MON / 2)

Capacity

– Usable fuel capacity: 5.5 gal (21 liters)
– including reserve of: approx. 1 gal (4 liters)

The fuel gauge in the multifunction display works only when the ignition is switched on.◀

Brake system

General

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes. Under extreme conditions, the brakes could overheat and suffer severe damage.
Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet brakes

After the motorcycle has been washed, ridden through water or ridden in the rain, the brake discs and pads might be wet and the brakes might not take effect immediately.
Bear in mind that this extends your stopping distance, because the brakes have to either dry out as you ride, or dry themselves when applied.◀

Salt on brakes

The full braking effect can be delayed if the motorcycle is ridden on salt-covered roads and the brakes are not applied for some time.
Bear in mind that this extends your stopping distance, because the force of friction has to remove the layer of salt when the brakes are applied.◀

Oil or grease on brakes

Oil and grease on the brake discs and pads considerably diminish braking efficiency.
It is particularly important to check the brake pads and discs after repair and maintenance work is carried out, to make sure they are free of oil and grease.◀

Dirt or mud on brakes

When the motorcycle is ridden on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the discs or brake pads.
Bear in mind that this extends your stopping distance, because the brakes have to clean themselves when applied.◀

BMW Integral ABS

It takes skill and sensitive control of the brakes to stop safely on a motorcycle. If the front brakes lock and the wheel skids, the necessary longitudinal and lateral stabilizing forces are lost, and a fall can result. For this reason, the rider seldom makes full use of available braking performance in an emergency.
By preventing both wheels from locking and optimizing braking-force distribution by means of the integral function, BMW Integral ABS offers improved braking efficiency.

Making full use of the motorcycle's technical braking capacity will minimize braking distances noticeably, even when road conditions are poor. When the motorcycle is ridden in a straight line, the BMW Integral ABS is able to handle emergency braking safely.

Reserves for safety
The potentially shorter braking distances which BMW Integral ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.

Take care when cornering. When you apply the brakes on a corner, the motorcycle's weight and momentum take over and even BMW Integral ABS is unable to counteract their effects.

Integral brakes
Your motorcycle is equipped with integral brakes. Both front and rear brakes are applied when you pull the handbrake lever. The footbrake lever acts only on the rear brake.
The electronic controller in the BMW Integral ABS regulates braking-force distribution between front and rear wheels. Braking-force distribution depends on load and is recalculated every time the ABS controller comes into action.

Brake booster
The hydraulic pump in the BMW Integral ABS boosts the braking force acting on the wheel when the brakes are applied. By boosting the braking force in this way, BMW Integral ABS achieves higher braking efficiency than standard brake systems.

ABS anti-lock braking system
ABS prevents the wheels locking under braking, thus contributing significantly to road safety.

Rear wheel lift

Even under severe braking, a high level of tire grip can mean that the front wheel does not lock up until very late, if at all. Consequently, ABS does not intervene until very late, if at all. Under these circumstances the rear wheel can lift off the ground, and the outcome can be a highsiding situation in which the motorcycle can flip over.

Severe braking can cause the rear wheel to lift off the ground.
Bear in mind that ABS cannot be relied on in all circumstances to prevent the rear wheel from lifting clear of the ground.◀

Residual braking function

When the ignition is off, while self-diagnosis is in progress, and if a fault develops in the BMW Integral ABS, the hydraulic brake boost provided by the BMW Integral ABS is not available in the brake circuits in question, and only a residual braking function is available. Under these circumstances, therefore, you must apply higher pressure to the brake levers in question in order to apply the brakes, and lever travel is longer. When the residual braking function is active, the ABS function is unavailable in the brake system in question. Under these circumstances, moreover, the integral braking function is partially or entirely unavailable.

Without the assistance of the ABS function, the wheels could lock when the brakes are applied, and without the brake booster you have to apply considerably more force in order to slow the motorcycle.
Think well ahead and brake carefully; avoid severe braking. Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.◀

The brake-lever travel needed to build up braking pressure can be considerably longer when the system is in residual braking function mode, so it is advisable to set the brake lever to a wider span (➠ 39).◀

When the residual braking function is active for both brake circuits, the noise of the pump is no longer audible when you operate the brake levers.◀

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General instructions

BMW recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Genuine BMW parts and accessories and other products which BMW has approved can be obtained from your authorized BMW motorcycle retailer, together with expert advice on their installation and use.
These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products. Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.

BMW cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. County-specific official authorization does not suffice as assurance. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances. Use only parts and accessories approved by BMW for your motorcycle.◀

Whenever you are planning modifications, comply with all the legal requirements. The motorcycle must not infringe national road-vehicle construction and use regulations.

Onboard sockets

Supply

The onboard sockets available as standard equipment and as optional accessories supply a voltage of 12 V and can be loaded with a maximum of 5 A each. The maximum amperage for all onboard sockets is a total of 5 A.

The supply to the socket is cut off automatically if battery voltage is low or the load exceeds the maximum rating.

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. Approx. 15 minutes after switching off the ignition and during the restart operation, the onboard socket is switched off to take the load off the vehicle electrical system.

Cable routing

The cables from the power socket to the auxiliary device must be routed in such a way that they:

– do not impede the rider
– do not restrict or obstruct the steering angle and handling characteristics
– cannot be trapped

Improperly routed cables can impede the rider. Route the cables as described above.◀

BMW
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R 1200 ST

Luggage system

Fitting a luggage system will affect the handling of your motorcycle. The recommended top speed with the cases loaded is 110 mph (180 km/h). The maximum permissible top speed with the topcase[OA] mounted is 110 mph (180 km/h).

Correct loading

⚠ Overloading can impair the stability of your motorcycle, as can an unbalanced load.
Never exceed the motorcycle's permissible gross weight (➠ 135). Comply with the instructions for loading below.◀

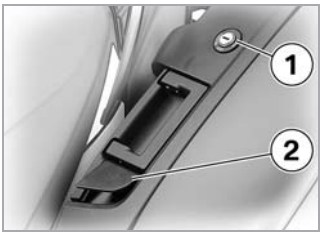
- Set spring preload (➠ 47), damping characteristic (➠ 48) and tire pressures (➠ 49) to suit total weight.
- Make sure that the weight is uniformly distributed between right and left.
- Pack heavy items at the bottom and toward the inboard side.
- Max. load in each case (left and right): 22 lbs (10 kg).
- Max. load in topcase is 11 lbs (5 kg).

Case[OA]

Opening case

- Unlock the case.

» The lock opening is perpendicular to the direction of travel.



- Press lock barrel **1**.

» Lever **2** pops up.

- Pivot lever **2** down.
- Open lid **3**.

Closing case

- Pull lever **2** back as far as it will go.
- Close lid **3** and press it down. Check that nothing is trapped between the lid and the case.

- Push lever **2** down.

» The lever engages.

- Lock the case.

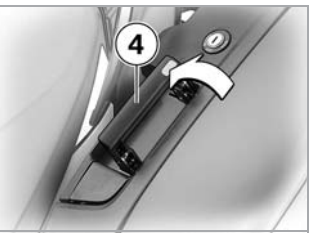
» The lock opening points in the direction of travel.

Removing case

- Unlock the case.

» The lock opening is perpendicular to the direction of travel.

- Press the key clockwise (left case) or counter-clockwise (right case).

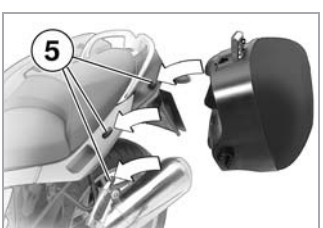


» Handle **4** pops out.

- Pull the handle out and then pull it up as far as it will go.

» The case is released and can be removed.

Installing case



- Unlatch the handle and pull it up as far as it will go.
- Locate the case in holders **5** and check that it is securely seated.

- Push the case handle down until it engages.

» The case is correctly engaged on its holders.

- Lock the case.

» The lock opening points in the direction of travel.

Topcase[OA]

Installing topcase

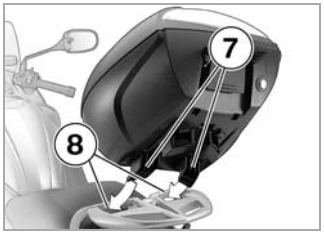
- Lock the topcase.

» The lock opening is horizontal.

- Turn the key clockwise.

» Handle **6** pops out.

- Pull the handle up as far as it will go.



- Hook the topcase into position on the carrier. Make sure that hooks **7** are securely seated in the corresponding keepers **8**.

- Push the handle down until it engages.

» The topcase is correctly engaged on its carrier.

Removing topcase

- Lock the topcase.

» The lock opening is horizontal.

- Turn the key clockwise.

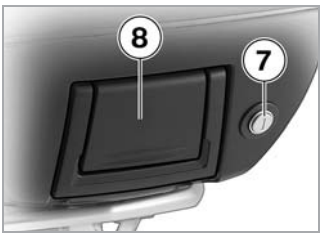
» Handle **6** pops out.

- Pull the handle up as far as it will go.

- Lift the topcase at the rear and pull it off the carrier.

Opening topcase

- Unlock the topcase.



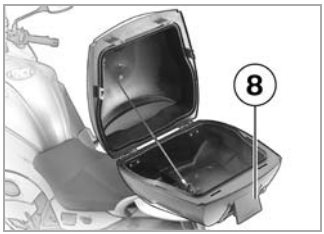
» The lock opening is vertical.

- Press lock barrel **7**.

» Locking lever **8** pops out.

- Fully open the locking lever.
- Open lid **9**.

Closing topcase



- Fully open locking lever **8**.
- Snap the lid of the compartment closed and push it down. Check that nothing is trapped between the lid and the case.
- Push the locking lever down until it engages.
- Lock the topcase.

» The lock opening is horizontal.

Toolkit **89**
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The 'Maintenance' chapter describes work involving the replacement of wear parts that can be performed with minimum effort.

The types of screws used for the components concerned are listed in (➠ 122). You can use this chart to set aside the required tools.
Special tightening torques are listed as applicable. Threaded fasteners for which a suitable tool is included in the toolkit are marked accordingly.

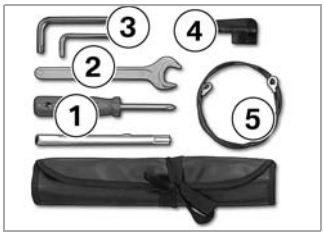
If you are interested in information on more extensive work, we recommend the repair manual on CD-ROM which applies to your particular motorcycle. You can obtain a copy from your authorized BMW motorcycle retailer.

Toolkit

The toolkit is underneath the rear seat.

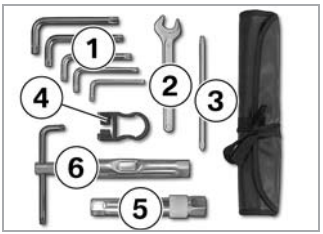
- Remove the seat (➠ 43).

- The tools wallet is held in place by a rubber strap.



Contents of the toolkit:

1 Screwdriver, reversible blade, with extension
2 Open-ended wrench, 17 mm
3 TORX® wrenches T25, T45
4 Tool for oil cap
5 Steel cable for helmet holder



Contents of supplement kit[OA]:

1 TORX® wrenches T25, T30, T40, T45, T50
2 Open-ended wrench, 15 mm
3 Screwdriver blade T25
4 Puller tool, direct ignition coil
5 Socket wrench, 22
6 Spark plug socket wrench with TORX® wrench as lever

Engine oil

Checking engine oil level

Check the oil level at regular intervals.

The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump.
Check the engine oil level immediately after a lengthy journey.◀

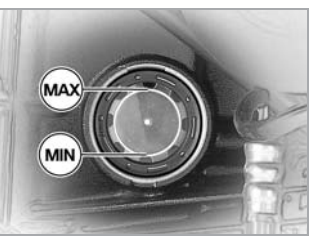
Damage to the engine can result if it is operated without enough oil, but the same also applies if the oil level is too high. Always make sure that the oil level is correct.◀

The engine can seize if the oil level is low, and this can lead to accidents. Always make sure that the oil level is correct.◀

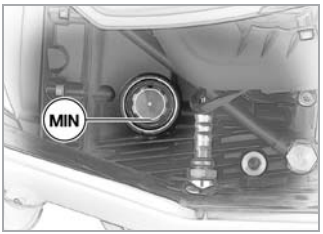
Checking the oil level with the engine cold or after no more than a short ride will lead to misinterpretation; this in turn, means that the engine will be operated with the incorrect quantity of oil.
In order to ensure that the engine oil level is read correctly, check the oil level only after a lengthy trip.◀

- With the motorcycle at operating temperature, hold it vertically or place it on the center stand and make sure that the ground is firm and level.
- Wait 5 minutes after switching off the engine.
- Check the oil level in sight glass.

In the case of a motorcycle without a center stand, obtain assistance from another person when reading the oil level.◀



The oil level must be located between the **MIN** and **MAX** marks. The difference is approx. 0.53 quart (0.5 liters).



Topping up engine oil

If the oil level is below the **MIN** mark:

- Using the tool from the toolkit, remove the filler plug.
- Top up the engine oil.
- Using the tool from the toolkit, hand-tighten the filler plug.

To prevent damage to the engine, do not exceed the maximum oil level.◀

The red general warning light in conjunction with the engine oil pressure warning indicate the lack of or insufficient oil pressure in the lubricating oil circuit. They in no way fulfill the function of an oil level sensor.
When the oil pressure has built up 1 to 2 seconds after starting the engine, the engine oil-pressure warning light (➠ 25) and the red general warning light (➠ 27) must go out.◀

Brakes

A properly functioning brake system is a basic requirement for the road safety of your motorcycle.

Incorrect working practices endanger the reliability of the brakes. Have all work on the brake system carried out by a specialist workshop, preferably an authorized BMW motorcycle retailer.◀

Do not ride the motorcycle if you have any doubts about the dependability of the brake system. In this case:

- Have the brake system checked by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Checking brakes

- Switch on the ignition.
- Wait for the ABS self-diagnosis to complete.
- Pull the handbrake lever.

» The pressure point must be clearly perceptible.

» In the case of BMW Integral ABS, the hydraulic pump must be heard to run.

- Press the footbrake lever.

» The pressure point must be clearly perceptible.

» In the case of BMW Integral ABS, the hydraulic pump must be heard to run.

Brake pads

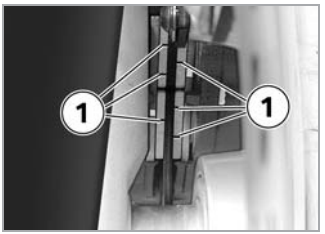
Brake pads worn past the minimum permissible thickness can impair braking efficiency and under certain circumstances they can cause damage to the brake system.

In order to ensure the dependability of the brake system, do not permit the brake pads to wear past the minimum permissible thickness.◀

Checking front brake pad thickness

- Make sure the ground is level and firm and place the motorcycle on its center stand or side stand.

- Visually inspect the left and right brake pads to ascertain their thickness.

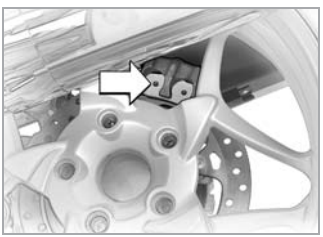


Slots are provided in the brake pads as wear markings **1**. If the brake pads are worn to such an extent that the wear markings are no longer clearly visible:

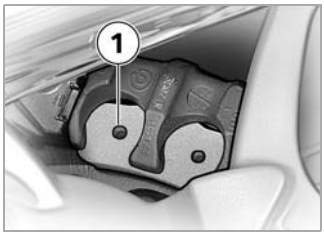
- Have the brake pads replaced by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Checking rear brake pad thickness

- Make sure the ground is level and firm and place the motorcycle on its center stand or side stand.

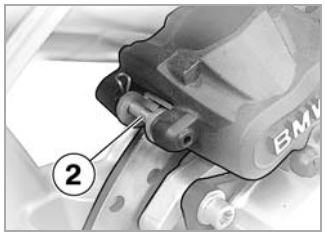


- Visually inspect the brake pads from the left to ascertain their thickness.

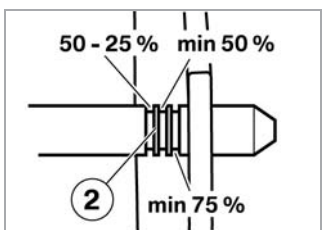


Make sure that the brake disk is not visible through bore **1** in the inboard brake pad. If the brake disk is visible:

- Have the brake pads replaced immediately, preferably by an authorized BMW motorcycle retailer.



Wear indicator, brake pads **2**

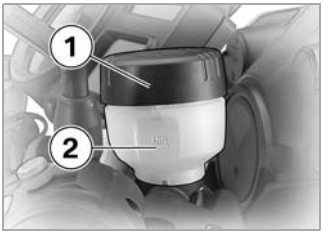


Wear indicator **2** indicates the condition of the rear brake pads. The number of rings visible is a measure of residual brake-pad thickness:

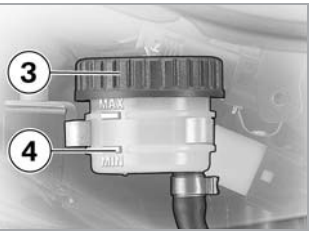
– 3 rings: at least 75 %
– 2 rings: at least 50 %
– 1 ring: 50 to 25 %
– No rings visible:
Check brake-pad thickness; replace the brake pads if necessary.

Checking brake fluid level

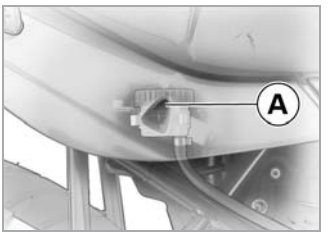
⚠ Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.
Do not turn the handlebar fitting on the handlebar.◀



1 Brake-fluid reservoir, front
2 **MIN** mark



3 Brake-fluid reservoir, rear
4 **MIN** mark



- Check brake fluid level through inspection opening **A** in the right-hand side panels.

- Hold the motorcycle vertically or place it on the center stand, ensuring that the ground is firm and level.
- Place the handlebars in a straight ahead position.
- Read off the brake fluid level at the reservoir.

Vehicles without ABS

In the event of brake pad wear, the brake fluid level in the brake-fluid reservoir falls.◀

The brake fluid level must not fall below the **MIN** mark. If the brake fluid level falls below the **MIN** mark:

Air can get into the brake system if there is insufficient brake fluid in the brake-fluid reservoir. This leads to a considerable decrease in braking performance.
Brake with foresight and caution, and avoid heavy braking.◀

- Have the fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle retailer.

Vehicles with ABS

The brake fluid level remains constant despite wear of the brake pads.◀

If the brake fluid level falls - even above the **MIN** mark - this indicates a defect in the brake system.

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency.
Think well ahead and brake carefully; avoid severe braking.◀

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Clutch

Checking operation

- Pull the clutch lever.

» The pressure point must be clearly perceptible.

Do not ride the motorcycle if you have any doubts about the dependability of the clutch. In this case:

- Have the clutch checked by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Check clutch fluid level

If the position of the clutch fluid reservoir is changed, air can enter the clutch system.
Do not turn the handlebar fitting on the handlebar.◀

- Hold the motorcycle vertically or place it on the center stand, ensuring that the ground is firm and level.
- Place the handlebars in a straight ahead position.
- Read off the clutch fluid level at the reservoir.

1 Clutch fluid reservoir
2 **MIN** mark

The clutch fluid level must not fall below the **MIN** mark. If the fluid level falls below the **MIN** mark, the clutch system must be checked immediately.
If the clutch fluid level falls - even above the **MIN** mark - this indicates a defect in the clutch system.

- Have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW motorcycle retailer.

The fluid level in the reservoir falls as the clutch wears.◀

Unsuitable hydraulic fluids could cause damage to the clutch system.
No fluids may be filled.◀

The clutch system is filled with a special hydraulic fluid that does not require changing.◀

Wheels

For each size of tire BMW Motorrad tests certain makes, and approves those that it certifies as roadworthy.
If BMW Motorrad has not approved the wheels and tires, it cannot assess their suitability or provide any guarantee of road safety. Use only wheels and tires approved by BMW Motorrad for your type of motorcycle.
You can obtain detailed information from your authorized BMW motorcycle retailer or by visiting
www.bmw-motorrad.com on the Internet

Checking rims

- Make sure the ground is level and firm and place the motorcycle on its center stand or side stand.
- Visually inspect the rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialist workshop, preferably an authorized BMW motorcycle retailer.

Checking tire tread depth

Do not allow the tires to wear past the minimum depth permitted by law in the country of use.

Your motorcycle's handling and grip can be impaired even before the tires wear to the minimum tire tread depth permitted by law.
Have the tires changed in good time before they wear to the minimum permissible tread depth.◀

Tires have wear indicators integrated into the main tread grooves. If the tire tread has worn down to the level of the marks, the tire is completely worn. The locations of the marks are indicated on the edge of the tire, e.g. by the letters TI, TWI or by an arrow.◀

- Measure the tire tread depth only in the main tread grooves with wear indicating marks.

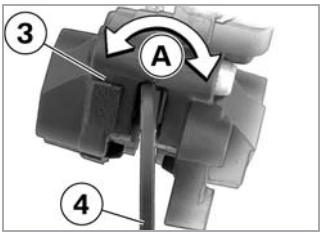
Removing front wheel

You will find an overview of the types of screws used on (➠ 122).◀

! There is a risk of damaging parts of the front brakes, particularly the BMW Integral ABS, in the course of the procedure described below.
Take care not to damage the brake system, in particular the ABS sensor with cable and the ABS sensor ring. ◀

- Place the motorcycle on its center stand.
- Remove screws **1** from the front mudguard on left and right.
- Pull the front mudguard forward to remove, spreading the sides slightly apart at the same time.

- Remove securing screws **2** of the left and right brake calipers.



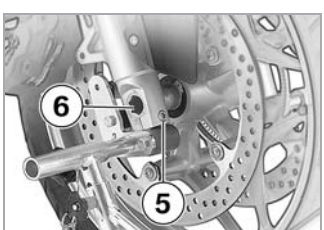
- Force brake pads in brake caliper **3** slightly apart by rocking them back and forth **A** against the brake disks **4**.

! Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.
Do not operate the handbrake lever when the brake calipers have been removed.◀

- Mask off the parts of the wheel rim that could be scratched in the process of removing the brake calipers.
- Pull the brake calipers back and out until clear of the brake disks.

⚠ When the motorcycle is standing on its center stand: if the motorcycle is raised too far at the front the center stand will lift clear of the ground and the motorcycle could topple to one side. When raising the motorcycle, make sure that the center stand remains on the ground.◀

- Raise the front of the motorcycle until the front wheel can rotate freely. We recommend using the BMW Motorrad front wheel stand (➠ 104) for this purpose.



- Remove axle clamping screw **5**.
- Remove quick-release axle **6**, while supporting the wheel.

- Lower the front wheel to the ground between the front forks.
- Roll the front wheel forward to remove.

Installing front wheel

The types of screw used are listed, complete with tightening torques, on (➠ 122).◀

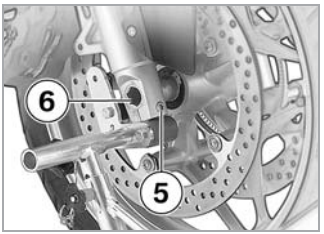
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the security of the fasteners checked by a specialist workshop, preferably an authorized BMW motorcycle retailer.◀

There is a risk of damaging parts of the front brake, particularly the BMW Integral ABS, in the course of the procedure described below.

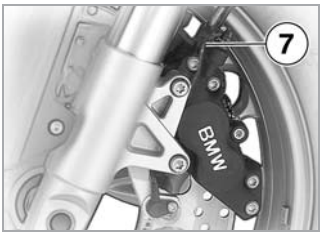
Take care not to damage the brake system, in particular the ABS sensor with cable and the AMS sensor ring.◀

The front wheel must be installed right way round to rotate in the correct direction.
Note the direction-of-rotation arrows on the tire and the wheel rim.◀

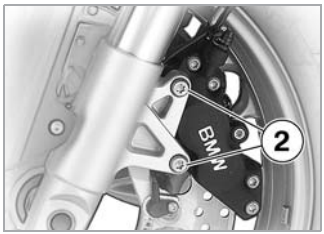
- Roll the front wheel into the front forks.



- Raise the front wheel, install the quick-release axle **6** and tighten to 50 Nm.
- Tighten axle clamping screw **5** to 19 Nm.
- Remove the front wheel stand.
- Ease the brake calipers on to the brake disks.



⚠ The cable of the ABS sensor could chafe through if it comes into contact with the brake disk. Make sure that ABS sensor cable **7** is routed correctly.◀



- Install securing screws **2** for the left and right brake calipers and tighten to 30 Nm.

- Install the mudguard and tighten securing screws **1**.
- Remove the adhesive tape from the wheel rim.

The front brakes have to be operated a few times to bed the brake pads against the brake disks.

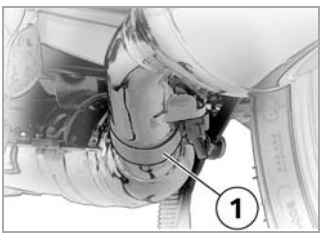
- Switch on the ignition.
- Wait for ABS self-diagnosis to complete (➠ 57).
- Firmly pull the handbrake lever a number of times, until the pressure point is perceptible.

⚠ Braking efficiency is impaired if the brake pads are not correctly bedded against the disks.
Before riding off, check that the brake pads are correctly bedded against the disks.◀

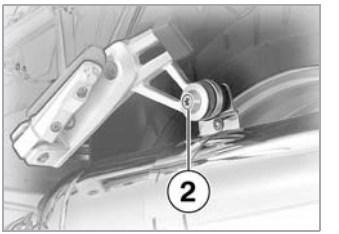
Removing rear wheel

The types of screw used are listed on (➠ 122).◀

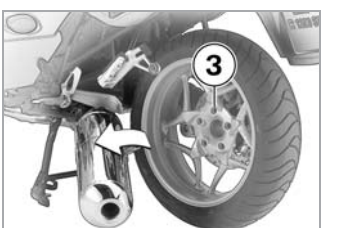
- Place the motorcycle on its center stand.



- Slacken clamp **1** on the muffler.



- Remove screw **2** for the bracket of the end muffler from the rear footrest.



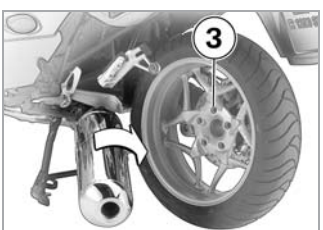
- Turn the end muffler out.
- Engage first gear.
- Remove studs **3** from the rear wheel, while supporting the wheel.

- Lower the rear wheel to the ground.
- Roll the rear wheel out toward the rear.

Installing rear wheel

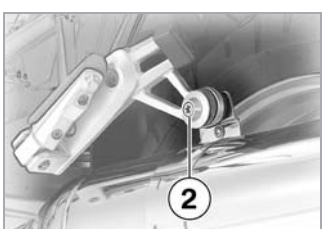
The types of screw used are listed, complete with tightening torques, on (➠ 122).◀

Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the security of the fasteners checked, preferably an authorized BMW motorcycle retailer.◀

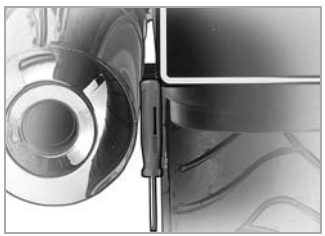


- Roll the rear wheel into position at the rear wheel hub.
- Lift the rear wheel onto the rear wheel hub.
- Install rear-wheel studs **3** and tighten in diagonally opposite sequence to 60 Nm.

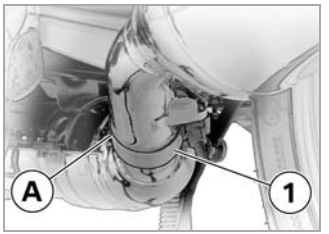
- Turn the end muffler to its initial position.



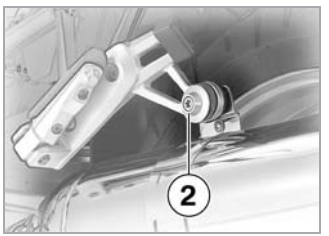
- Install screw **2** for the bracket of the end muffler in the rear footrest, but do not tighten it at this point.



A lack of clearance between the rear wheel and the end muffler can result in damage to the rear wheel. The clearance between rear wheel and end muffler is correct when the handle of screwdriver from the onboard toolkit can be slipped between the two.◀



- Align the clamp **1** on the end muffler on the marking **A** on the upper side of the muffler pipe and tighten it to 55 Nm.

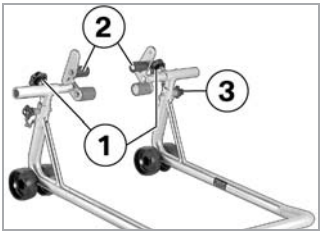


- Tighten screw **2** for the bracket of the end muffler in the rear footrest to 19 Nm.

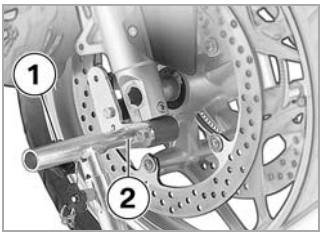
Front-wheel stand

A front-wheel stand for simple, safe changing of the front wheel is available from BMW Motorrad. The BMW special tool number is 363971 and the front-wheel stand is available from your authorized BMW motorcycle retailer. You also need the adapters with the BMW special tool number 363972.

Fitting front-wheel stand



- Place the motorcycle on its center stand.
- Slacken adjusting screws **1**.
- Push pins **2** apart until the front suspension fits between them.
- Use locating pins **3** to set the front-wheel stand to the desired height.
- Center the front-wheel stand relative to the front wheel and push it against the front axle.



- Push the two mounts **2** inward so that front wheel can still roll through between them.
- Tighten adjusting screws **1**.

- Apply uniform pressure to push the front-wheel stand down and raise the motorcycle.

⚠ When the motorcycle is standing on its center stand: if the motorcycle is raised too far at the front the center stand will lift clear of the ground and the motorcycle could topple to one side. When raising the motorcycle, make sure that the center stand remains on the ground.◀

Bulbs

Information on bulbs

The 'bulb defect' symbol appears in the display if a bulb is defective. If the brake or rear light fails, the symbol is accompanied by the general warning light, which lights up yellow.

⚠ A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle. Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

▷ You will find an overview of the types of bulb used on (➠ 134).◀

Do not touch the glass of new bulbs with your fingers. Use a clean, dry cloth to hold the bulbs when handling them. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. This leads to overheating and shortens the bulb's operating life.◀

Replacing headlight bulbs

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

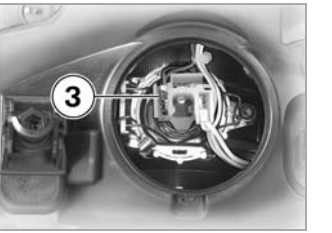
The bulb is pressurized and can cause injury if damaged. Wear protective goggles and gloves when changing bulbs.◀

Turn the handlebars to the left to facilitate access.◀

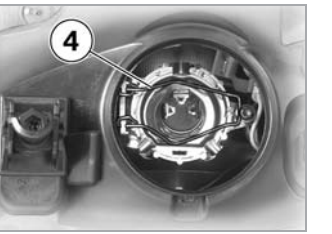
The following description of the lower headlight also applies to the upper one.

- Switch off the ignition.

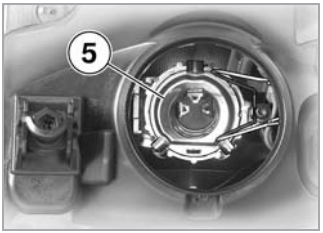
- Remove cover **1** by pulling on lower lever **2** (upper headlight: lever points toward right).



- Disconnect plug **3**.

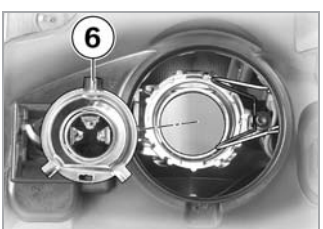


- Disengage spring clip **4** at top and bottom and secure it (preferably by hooking it into the headlight housing).



- Remove bulb **5**.

Installation is the reverse of the removal procedure.



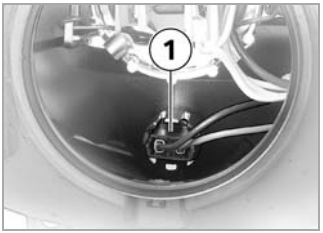
- When installing, make sure that lug **6** is pointing up and that the bulb is securely seated.
- Check that the bulb is corrected seated (by looking in through the headlight lens).

Replacing side light bulb

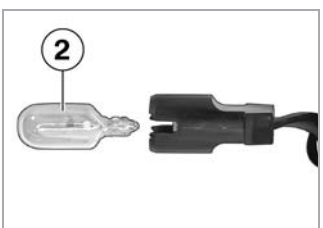
⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

The side light bulb is located in the housing of the lower headlight.

- Switch off the ignition.



- Pull the bulb socket **1** out of the headlight housing.



- Remove bulb **2** from the bulb holder.

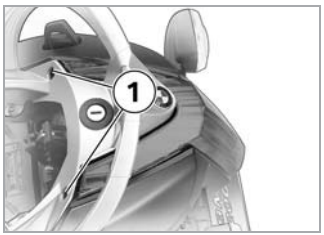
Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.

Replacing brake light and rear light bulbs

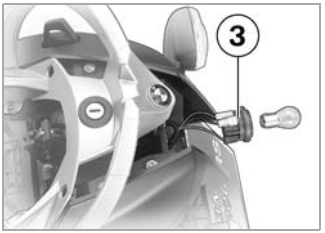
⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

- Switch off the ignition.
- Remove the rear seat (➠ 43).



- Remove screws **1** on left and right.

- Pull off the bulb housing **2** toward the rear.



- Turn bulb holder **3** counter-clockwise to remove it from the bulb housing.
- Press the bulb into its socket and turn it counter-clockwise to remove.

Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.

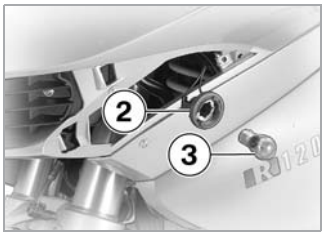
Replacing front turn indicator bulb

⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

- Switch off the ignition.

- Remove screw **1**.

- Pull off the turn indicator glass to the side.



- Turn bulb holder **2** counterclockwise to remove it from the bulb housing.
- Remove the bulb **3** from the bulb holder.

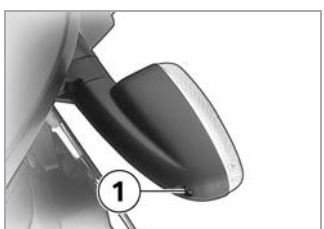
Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.

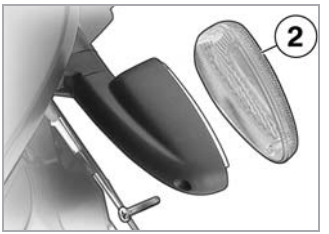
Replacing rear turn indicator bulb

⚠ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

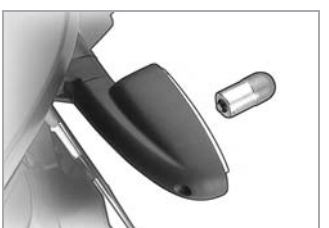
- Switch off the ignition.



- Remove screw **1**.



- Remove turn indicator glass **2**.



- Press the bulb into its socket and turn it counter-clockwise to remove.

Installation is the reverse of the removal procedure.

- Use a clean, dry cloth to hold the new bulb.

Jump starting

The wires leading to the power socket do not have a load-capacity rating adequate for jump-starting the engine. Excessively high current can lead to a cable fire or damage to the vehicle electronics.
Do not use the onboard socket to jump-start the engine.◀

Do not use proprietary start-assist sprays or other products to start the engine.◀

A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle.
Use only jump leads fitted with fully insulated crocodile clips at both ends.◀

Jump-starting with a donor-battery voltage higher than 12 V can damage the vehicle electronics.
Make sure that the battery of the donor vehicle has a voltage rating of 12 V.◀

- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.

- Remove seats and driver's seat bracket (➠ 43).
- Run the engine of the donor vehicle during jump-starting.
- Begin by connecting one end of the red jump lead to the positive terminal of the discharged battery and the other end to the positive terminal of the donor battery.
- Then connect one end of the black jump lead to the negative terminal of the donor battery, and the other end to the negative terminal of the discharged battery.
- Start the engine of the vehicle with the discharged battery in the usual way; if the engine does not start, wait a few minutes before repeating the attempt in order to protect the starter and the donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump leads.
- Disconnect the jump lead from the negative terminals first, then disconnect the second lead from the positive terminals.
- Reinstall the seats.

⚠ Touching live parts of the ignition system with the engine running can cause electric shock.
Do not touch parts of the ignition system when the engine is running.◀

Battery

Maintenance instructions

Your motorcycle is supplied with a maintenance-free battery.
Correct upkeep, recharging and storage will prolong the life of the battery and are essential if warranty claims are to be considered.
Compliance with the points below is important in order to maximize battery life:

– Keep the surface of the battery clean and dry.
– Do not open the battery.
– Be sure to read and comply with the instructions for charging the battery on the following pages.
– Do not turn the battery upside down.

If the battery is not disconnected, the onboard electronics (e.g. clock, etc.) will gradually drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.
During periods when the motorcycle is not being used, of more than four weeks, disconnect the battery from the motorcycle or connect a trickle charger to the battery.◀

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods of disuse, without having to disconnect the battery from the motorcycle's onboard systems. More information is available on request from your authorized BMW motorcycle retailer.◀

Charging connected battery

If the indicator lights do not light up and the multifunction display remains blank when you switch on the ignition, the battery is completely flat.

- Do not attempt to recharge a completely flat battery via the onboard socket; instead, disconnect the battery from the onboard system and connect the charger directly to the battery terminals.
- Comply with the operating instructions of the charger.

Attempting to charge a completely flat battery via the onboard socket can cause damage to the motorcycle's electronics.
If the battery is completely flat it must always be recharged directly at the terminals.◀

Your authorized BMW motorcycle retailer will be happy to provide information on suitable chargers.◀

If the battery is only partially discharged, it can be recharged via the onboard socket.

- If electrical accessories are connected to a second onboard socket[OE], disconnect them before connecting the charger.
- Switch on the ignition.
- Plug the charger into the onboard socket. Comply with the operating instructions of the charger.
- Switch off the ignition.

The motorcycle's onboard electronics know when the battery is fully charged. The onboard socket is switched off when this happens.◀

If you are unable to charge the battery via the power socket, you may be using a charger that is not compatible with your motorcycle's electronics. If this happens, disconnect the battery from the onboard systems and connect the charger directly to the battery.◀

Charging disconnected battery

The battery has to be recharged at regular intervals in the course of a lengthy period of disuse.
See the instructions for caring for your battery. Always fully recharge the battery before restoring it to use.◀

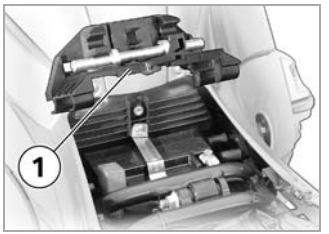
- Charge the battery using a suitable charger.
- Comply with the operating instructions of the charger.
- Once the battery is fully charged, disconnect the charger terminal clips from the battery terminals.

Removing battery

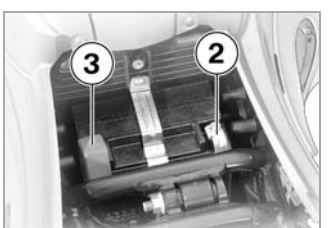
The types of screw used are listed on (➠ 122).◀

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

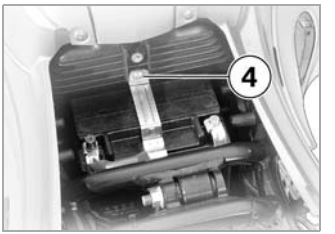
- Switch off the ignition.



- Remove driver's seat mount **1** upward.



- Disconnect the battery's negative lead **2** first.
- Then disconnect the battery's positive lead **3**.



- Remove screw **4**.
- Lift the battery up and out; work it slightly back and forth if it is difficult to remove.

Installing battery

The types of screw used are listed, complete with tightening torques, on (➠ 122).◀

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◀

- Switch off the ignition.
- Insert the battery into the battery compartment, with the positive terminal on the right in the direction of travel.
- Push retaining hoop over battery and tighten screw **4** hand-tight.
- Install positive lead **3** first and hand-tighten the screw.
- Then install negative lead **2** and hand-tighten the screw.
- Switch on the ignition.

Remember to reset the clock after reconnecting the battery.◀

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Restoring to use 119

Cleaning and care

Regular cleaning, using the correct methods, is an important factor in maintaining the value of your motorcycle. It also ensures that safety-relevant parts remain in full working order.

Care products

We recommend that you use the cleaning and care products you can obtain from your authorized BMW motorcycle retailer. The materials in BMW Care Products have been tested in laboratories and in practice; they provide optimized care and protection for the materials used in your vehicle.

The use of unsuitable cleaning and care products can damage vehicle components.
Do not use solvents such as cellulose thinners, cold cleaners, fuel or the like, and do not use cleaning products that contain alcohol.◀

Washing motorcycle

We recommend that you use BMW insect remover to soften and wash off insects and stubborn dirt on painted parts prior to washing the motorcycle. To prevent stains, do not wash the motorcycle immediately after it has been exposed to strong sunlight and do not wash it in the sun.
Make sure that the motorcycle is washed frequently, especially during the winter months.
To remove road salt, wash the motorcycle down immediately with cold water at the end of the journey.

Warm water intensifies the effect of salt.
Only use cold water to remove road salt.◀

Wet brake discs reduce braking efficiency.
After washing the motorcycle, dry the brakes by braking.◀

The high water pressure of steam jet cleaners can damage gaskets, the hydraulic brake system and the electrical equipment.
Do not use a steam jet or high-pressure cleaning equipment.◀

Plastics

Clean plastic parts with water and BMW plastic care emulsion. This includes in particular:

– Windshields
– Headlight lens made of plastic
– Covering glass of the instrument cluster
– Black, unpainted parts

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.
Do not use cleaning agents that contain alcohol, solvents or abrasives to clean plastic parts. Even fly-remover pads or cleaning pads with hard surfaces can produce scratches.◀

Soften stubborn dirt and dead insects by covering the affected areas with a wet cloth.◀

Windshield

Clean off dirt and insects with a soft sponge and plenty of water.

Fuel and chemical solvents attack the windshield.
Do not use detergent products.◀

Chrome

Especially in the case of road salt, carefully clean chrome with plenty of water and BMW vehicle shampoo. Use chrome polish for additional treatment.

Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen.
However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilt fuel, oil, grease, brake fluid and bird droppings. BMW vehicle polish or BMW paint cleaner are recommended here.

Contamination on the paint finish is particularly easy to see after the motorcycle as been washed. Remove stains of this kind immediately using cleaning-grade benzene or petroleum spirit on a clean cloth or ball of cotton wool. We recommend that specks of tar be removed with BMW tar remover. Then add a protective wax coating to the paint at these locations.

Protective wax coating

For the protective wax coating of paint, we recommend that you use only BMW vehicle wax or agents that contain carnauba wax or synthetic waxes. The best way to see whether the paint has to be protected is that water no longer forms pearls.

Touching up

Your authorized BMW motorcycle retailer is equipped with suitable systems for rapid and low-cost correction of minor paint damage. We recommend that minor paintwork flaws be rectified with a BMW paint spray or a BMW paint pencil and larger paint damage be dealt with at your authorized BMW motorcycle retailer by a specialized repair paint job carried out in accordance with works specifications with original BMW paints.

Rubber

Treat rubber components with water or BMW rubber protection coating agent.

Using silicone sprays for the care of rubber seals can cause damage.
Do not use silicone sprays or other care products that contain silicone.◀

Storing

- Clean the motorcycle (➠ 116).
- Remove the battery (➠ 113).
- Spray the brake and clutch lever pivots and the center and side stand pivots with a suitable lubricant.

- Coat bright metal/chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Place the motorcycle on its center stand in a dry room.
- Raise the engine with the front-wheel stand in such a way that both wheels are clear of the ground.

Before laying the vehicle up out of use, have the engine oil and the oil filter element changed by a specialist workshop, preferably your authorized BMW motorcycle retailer. Combine work for storing/restoring to use with a maintenance service or inspection.◀

Restoring to use

- Remove the protective wax coating.
- Clean the motorcycle (➠ 116).
- Install a charged battery (➠ 114).
- Perform the safety checks (➠ 54).
- Check the brakes (➠ 92).
- Check the tire pressures (➠ 49).

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Tire pressures 124
Engine 125
Power transmission 126
Frame and suspension 127
Wheels and tires 129
Fuel and lubricants 130
Electrical system 133
Dimensions and weights 135
Riding specifications 136

Threaded fasteners

Activity	Type of threaded fastener	Tightening torque
Front wheel		
Mudguard	Internal TORX® T25 (1)	hand-tight
Brake caliper	Internal TORX® T45	30 Nm
Quick-release axle	Allen screw, 22 mm	50 Nm
Axle clamping screw	Internal TORX® T45	19 Nm
Rear wheel		
End muffler to footrest	Internal TORX® T45	19 Nm
Exhaust clip	Hex head 15	55 Nm
Studs for rear wheel	Internal TORX® T50	60 Nm
Bulb housing		
Brake and rear light	Internal TORX® T25 (1)	hand-tight
Front turn indicators	Phillips screw, large (1)	hand-tight
Rear turn signals	Phillips screw, small (1)	hand-tight

Threaded fasteners

Activity	Type of threaded fastener	Tightening torque
Battery		
Battery-terminal clamps	External hexagon, 10 mm, or slotted head screw, large (1)	hand-tight
Securing bracket	Internal TORX® T20	hand-tight
Splash guard		
Splash guard	Internal TORX® T25 (1)	hand-tight

(1) in the toolkit

Tire pressures

Tire pressures measured when tires are cold.

Accessories and loads	Front	Rear
One-up	31.9 psi (2.2 bar)	36.3 psi (2.5 bar)
One-up with luggage	36.3 psi (2.5 bar)	42 psi (2.9 bar)
Two-up (with luggage)	36.3 psi (2.5 bar)	42 psi (2.9 bar)

Engine

Engine	
Type	Four-stroke opposed-twin engine
Displacement	1,170 cc
Bore/stroke	3.98/2.87 in (101/73 mm)
Compression ratio	12.0 : 1
Power output	
Maximum rated output	81 kW
- at engine speed	7,500 rpm
Torque	
Max. torque	115 Nm
- at engine speed	6,000 rpm
Engine speeds	
Engine speed, maximum	8,000 rpm
Idle speed	1,050 $\pm$ 50 rpm
Consumption	
Fuel consumption at constant 56 mph (90 km/h)	63.6 mpg (3.7 l/100 km)
Fuel consumption at constant 75 mph (120 km/h)	46 mpg (5.1 l/100 km)
Maximum permissible oil consumption	1.7 quart/1,000 miles (1 l/1,000 km)

Power transmission

Clutch	
Type	Single dry plate with high-leverage pressure plate
Transmission	
Type	6-speed transmission with dog-clutch engagement mechanism and integral vibration damper
Overall ratios	1st gear = 2.277 2nd gear = 1.583 3rd gear = 1.259 4th gear = 1.033 5th gear = 0.903 6th gear = 0.805
Rear-wheel drive	
Transmission from transmission to rear-wheel drive	Universal shaft with integrated torsional damper
Rear-wheel drive	Bevel gears
Final drive ratio	2.62 : 1

Frame and suspension

Frame	
Type	Tubular steel front frame with tubular steel rear frame, load-bearing drive unit
Location of type plate	Rear frame lug on right under rear seat
Location of vehicle identification number (VIN)	Front frame, top center
Front brake	
Type	Two floating brake disks with 4-piston fixed calipers
Brake pads	Sintered metal brake pads
Rear brake	
Type	One fixed brake disk with 2-piston floating caliper
Brake pads	Organic brake pads (OE sintered metal)
Front suspension	
Type	BMW Telelever
Steering lock angle	2 x 42°
Front wheel castor in normal-load position	4.4 in (111.6 mm)
Rear suspension	
Type	BMW Evo Paralever

Frame and suspension

Front suspension system	
Type	Central spring strut with coil spring and single-tube, gas-filled shock absorber
Spring travel (bump)	2.4 in (60 mm)
Spring travel (rebound)	2 in (50 mm)
Total suspension travel (at wheel)	4.3 in (110 mm)
Rear suspension system	
Type	Central spring strut with single-tube, gas-filled shock absorber, steplessly adjustable rebound-stage damping, distance-dependent press stage damping and hydraulic steplessly adjustable spring preloading
Spring travel (bump)	3.9 in (100 mm)
Spring travel (rebound)	1.6 in (40 mm)
Total suspension travel (at wheel)	5.5 in (140 mm)

Wheels and tires

Front wheel	
Type	Cast wheel with 5 double spokes, MT H2
Rim size	3.50 x 17“
Tire size	120/70 ZR17
Rear wheel	
Type	Cast wheel with 5 double spokes, MT H2
Rim size	5.50 x 17“
Tire size	180/55 ZR17

Fuel and lubricants

Engine oil	
Oil grade	Brand-name HD oil of API classification SF, SG or SH; CD or CE amendments are permissible; or brand-name HD oil of CCMC classification G4 or G5; amendment PD2 is permissible.
Capacity (with filter change)	4.2 quarts (4.0 l)
Capacity (without filter change)	3.9 quarts (3.7 l)
Top-up volume between MIN and MAX	0.5 quart (0.5 l)

Fuel and lubricants

Viscosity classes depending on outside temperature	
-4 °F – 50 °F (-20 °C – 10 °C)	SAE 20
32 ° F – 86 °F (0 °C – 30 °C)	SAE 30
68 °F (20 °C) – above 86 °F (30 °C)	SAE 40
14 °F (-10 °C) – above 86 °F (30 °C)	SAE 20 W-50
5 °F (-15 °C) – above 86 °F (30 °C)	SAE 15 W-50
5 °F – 86 °F (-15 °C – 30 °C)	SAE 15 W-40
-4 °F – 68 °F (-20 °C – 20 °C)	SAE 10 W-40
-4 °F – 50 °F (-20 °C – 10 °C)	SAE 10 W-30

Oil additives are not necessary.

Fuel and lubricants

Transmission oil	
Grade	SAE 90 GL5
Capacity	0.7 quart (0.7 l)
Fuel	
Fuel grade	Premium grade unleaded fuel, minimum octane content 98 (RON)
Capacity of fuel tank	5.5 gal (21 l)
Reserve volume	Of that 1 gal (4 l)
Brakes	
Brake fluid	DOT 4 We recommend BMW brake fluid

Electrical system

Battery	
Type	12 V/14 Ah AGM battery, maintenance-free
Spark plugs	
Spark plugs	BOSCH YR5LDE
Electrode gap	0.0315 in (0.8 mm)
Wear limit	0.0394 in (1.0 mm)
Fuses	
	All circuits are electronically protected, so plug-in fuses are not necessary. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.

Electrical system

Bulbs	
Headlight type	Dual headlight with free-form technology
High-beam headlight	H4 halogen bulb 12 V 55 W
Low-beam headlight	H4 halogen bulb 12 V 55 W
Side lights	12 V 5 W
Brake/rear light	12 V 21/5W
Front turn signals	12 V 21 W
Rear flashing turn signals	12 V 10 W
License plate light	12 V 5 W (integrated in rear-light unit)
Power socket	
Ratings	12 V 5 A

Dimensions and weights

Dimensions	
Maximum length	85 in (2,165 mm)
Maximum width	29.5 in (750 mm)
Maximum height:	
Windshield retracted	48 in (1,220 mm)
Windshield extended	49 in (1,255 mm)
Seat height	31.89 in/32.68 in (810 mm/830 mm)
Wheelbase in normal-load position	59.1 in (1,502 mm)
Ground clearance in normal-load position	6.1 in (155 mm)
Weights	
Unladen weight (ready for road, fuel tank full)	505 lbs (229 kg)
Maximum payload	509 lbs (231 kg)
Permissible gross weight	1,014 lbs (460 kg)

Riding specifications

Speeds	
Top speed	over 124 mph (200 km/h)
Acceleration 0-100 km/h	3.5 s
Noises	
Riding noise to EU specification	80 dB (A)
Stationary noise to EU specification	87 dB (A) at 3,750 rpm

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BMW Motorrad service

BMW Motorrad service quality

BMW Motorrad stands not only for good handling and a high degree of reliability, but also for an excellent quality of service. To ensure that your BMW is always in optimum condition, we recommend that you have the regular maintenance work required for your motorcycle carried out, preferably by your authorized BMW motorcycle retailer. For generous treatment of claims submitted after the warranty period has expired, evidence of regular maintenance is essential.

In addition, certain signs of wear may otherwise not be noticed until it is too late to put them right at moderate cost. Your authorized BMW motorcycle retailer knows every detail of your motorcycle and can take remedial action if necessary before minor faults develop into serious problems. By having the necessary repairs done properly and in good time, you save time and money in the long run.

BMW Motorrad Service Card – On-the-spot breakdown assistance

With all new BMW motorcycles, the BMW Motorrad Service Card protects you in the event of a breakdown with an extensive range of services such as breakdown assistance, motorcycle transportation etc. (differing regulations are possible in individual countries).

In the event of a breakdown, contact BMW Motorrad's Mobile Service. Here you will find our specialists ready to help in both word and deed.

Important country-specific contact addresses and the relevant after-sales service organization phone numbers as well as information on Mobile Service and the dealership network can be found in the "Service Kontakt / Service Contact" brochures.

BMW Motorrad service network

Our extensive after-sales service organization network is able to look after you and your motorcycle in more than 100 countries. In Germany alone, you have the best possible access to approximately 200 authorized BMW motorcycle retailers.

All information concerning the international dealership network can be found in the brochure "Service Contact Europe" or "Service Contact Africa, America, Asia, Australia, Oceania".

You will be given the relevant brochure for your country together with your motorcycle; you can obtain both brochures from your authorized BMW motorcycle retailer.

Maintenance work

Some maintenance tasks have to be performed after a certain time, others depend on the distance covered by the motorcycle.

BMW Running-in Check

The BMW running-in check has to be performed when the motorcycle has covered between 300 and 750 miles (500 km and 1,200 km).

BMW Annual Inspection

Some maintenance work has to be carried out at least once a year. Other tasks depend on the distance the motorcycle has covered.

BMW Service

After the first 6,000 miles (10,000 km) and every further 12,000 miles (20,000 km) (18,000 miles, 30,000 miles, 42,000 miles) (30,000 km, 50,000 km, 70,000 km, etc.) if this distance is covered within a year.

BMW Inspection

After the first 12,000 miles (20,000 km) and every further 12,000 miles (20,000 km) (24,000 miles, 36,000 miles, 48,000 miles) (40,000 km, 60,000 km, 80,000 km, etc.) if this distance is covered within a year.

Maintenance schedules

The maintenance schedule for your motorcycle depends on the equipment fitted, and on the motorcycle's age and the distance it has covered. Your authorized BMW motorcycle retailer will be happy to supply a copy of the current maintenance schedule for your motorcycle on request.

Every authorized BMW motorcycle retailer has a fixed scale of charges based on labor times and carefully calculated hourly rates. Fuel, lubricants and similar substances, filters, gaskets etc. are charged separately.◀

BMW Pre-delivery Check

Carried out in accordance with manufacturer's instructions

Date, stamp, signature

BMW Running-In Check

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

☐ Wheel circuit

☐ Control circuit

Date, stamp, signature

Confirmation of maintenance work

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

Confirmation of maintenance work

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

Confirmation of maintenance work

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

Confirmation of maintenance work

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

BMW Service

- ☐ BMW Annual Inspection
- ☐ BMW Service
- ☐ BMW Inspection

Carried out in accordance with manufacturer's instructions

Odometer reading _____

Brake fluid changed:

BMW Integral ABS

- ☐ Wheel circuit
- ☐ Control circuit

_____

Date, stamp, signature

Confirmation of service

The list is intended as a record of maintenance, warranty and repair work, the installation of optional accessories and, if appropriate, special campaign (recall) work.

Record of all work carried out in workshop		
Work details	**miles/km**	**Date**

Confirmation of service

Record of all work carried out in workshop		
Work details	**miles/km**	**Date**

Confirmation of service

Instrument cluster replaced

at distance

_____

(odometer reading)

_____

Date, stamp, signature

Instrument cluster replaced

at distance

_____

(odometer reading)

_____

Date, stamp, signature

Instrument cluster replaced

at distance

_____

(odometer reading)

_____

Date, stamp, signature

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Details described or illustrated in this booklet may differ from the motorcycle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.
The right to modify designs, equipment and accessories is reserved.
Errors and omissions excepted.

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Important data for refueling.

Fuel	
Recommended fuel type	Premium grade unleaded fuel 98 ROZ
Fuel types can be used with poorer performance and consumption	Normal unleaded 91 ROZ
Usable fuel quantity	5.5 gal
Reserve fuel quantity	1.1 gal
Tire pressures	
Tire pressure for front wheel - single rider	31.9 psi, With tire cold
Tire pressure for rear wheel - single rider	36.3 psi, With tire cold
Tire pressure for front wheel - passenger or luggage	36.3 psi, With tire cold
Tire pressure for rear wheel - passenger or luggage	42.1 psi, With tire cold
Tire pressure for front wheel - passenger and luggage	36.3 psi, With tire cold
Tire pressure for rear wheel - passenger and luggage	42.1 psi, With tire cold

BMW recommends Castrol

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The Ultimate Riding Machine

Please attach this sticker to the inside back cover page of your Rider's Manual

Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying BMW of North America, LLC.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or BMW of North America, LCC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1–888–327–4236 (TTY: 1–800–424–9153); go to *http://www.safercar.gov*; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from *http://www.safercar.gov.*

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How does ABS work?
The maximum braking force which can be transferred to the road surface is partially dependent on the coefficient of friction of the road surface. Gravel, ice, snow and wet road surfaces offer a considerably poorer coefficient of friction than a dry, clean layer of asphalt. The lower the coefficient of friction of the road surface is, the longer the braking distance will be.
If the maximum transferrable braking force is exceeded when the driver increases the brake pressure applied, the wheels begin to lock and the driving stability is lost, resulting in a danger of falling. Before this situation occurs, the ABS intervenes and adjusts the brake pressure to the maximum transferrable braking force. As a result, the wheels continue to turn and the driving stability is maintained regardless of the road surface condition.

What happens on uneven road surfaces?
Wavy ground or uneven road surfaces can briefly result in a loss of contact between the tire and the road surface, and the transferrable braking force decreases to zero. If the brakes are applied in this situation, the ABS must reduce the brake pressure to ensure driving stability when contact with the road surface is restored. At this point in time the BMW Motorrad Integral ABS must assume extremely low coefficients of friction (gravel, ice or snow) so that the wheels turn in every imaginable case and the driving stability is ensured. After the actual conditions are detected, the system adjusts the brake pressure to the optimum value.

What must be observed during driving safety training?
Compared to normal braking, braking during which the ABS must intervene in a regulating manner requires a consider-

ably increased amount of current, which places a heavy load on the battery.
During normal driving the battery is constantly charged, and therefore has a sufficient capacity.
During driving breaks of several weeks, a trickle-charger available from an authorized BMW Motorrad retailer should be connected or the battery should be disconnected and recharged before the next time the motorcycle is driven.
During driving-safety training courses an unusually high number of ABS-controlled braking actions take place within a short time. Between those actions there are waiting and evaluation phases during which the motorcycle is not driven. The battery is heavily loaded by the ABS control actions, however at the same time it is not recharged, as virtually no driving takes place.
In isolated cases, braking actions of this kind in this artificially produced situation during which the brake lever is pulled with maximum force and extremely quickly, in combination with a decreasing electrical system voltage, push the ABS to technical limits at which the control function is no longer fulfilled.
Field observations by BMW Motorrad show that no comparable situations occur in road traffic or during circuit training.
During safety training the following instructions must be followed:

- Observe the warning and control lights before each braking exercise
- Drive a longer distance after a maximum of five braking exercises to charge the battery
- Switch off consumers like seat and hand grip heaters, radio, navigation system and accessories connected to the sockets
- Switch off the ignition during breaks and conversations. If the engine is switched off with the emergency ON/OFF switch, the light and all electronic systems remain switched on and load the battery

How can the shortest braking distance be achieved?

During braking the dynamic load distribution between the front and rear wheel changes. The heavier braking is, the higher the load on the front wheel. The greater the wheel load, the more braking force can be transferred.

To achieve the shortest possible braking distance, the front brake must be operated quickly and with increasing force. This optimally utilizes the dynamic load increase on the front wheel. At the same time, the clutch should also be disengaged.

With the "forced braking" often practiced, during which the brake pressure is generated as quickly as possible and with maximum force, the dynamic load distribution is unable to follow the increase in deceleration and the brake force cannot be completely transferred to the road surface. To prevent locking of the front wheel, the ABS must intervene and reduce the brake pressure, which increases the braking distance.

What happens when the ABS control function fails?

A fault in the BMW Motorrad Integral ABS is indicated by a corresponding warning in the instrument cluster.

If only the ABS control function fails, the integral system and the brake booster continue to operate. If these systems also fail, the residual braking function is activated. In this case, the forces to be applied to the brake levers are considerably higher and the required lever travel increases.

The residual braking function is a mechanical function and is always available when the BMW Motorrad Integral ABS fails, regardless of the battery charging level. It meets all requirements of the worldwide legislation on the brake design of motor vehicles and enables the rider to brake the motorcycle.

When driving with the residual braking function, the following instructions must be followed:

- Adjust the brake levers to the maximum travel

- Always brake with the front and rear brakes
- In clear situations, carry out test braking to learn the response behavior of the brakes
- Observe the condition of the road surface and adapt the braking force applied accordingly
- As it is an emergency running function, you should drive to a specialized workshop, preferably an authorized BMW Motorrad retailer, as quickly as possible

How important is regular maintenance?

Any technical system is always only as good as its maintenance status.
To ensure that the BMW Motorrad Integral ABS is in optimum condition with regard to maintenance, the specified inspection intervals must always be complied with.◀

How is the BMW Motorrad Integral ABS designed?

The BMW Motorrad Integral ABS ensures the driving stability of the motorcycle on any surface within the physical limits of driving. The system is not optimized for special requirements resulting under extreme weather conditions on offroad terrain or on racing circuits.

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